

Manufacturers Record

Exponent of America

JULY 15, 1920.

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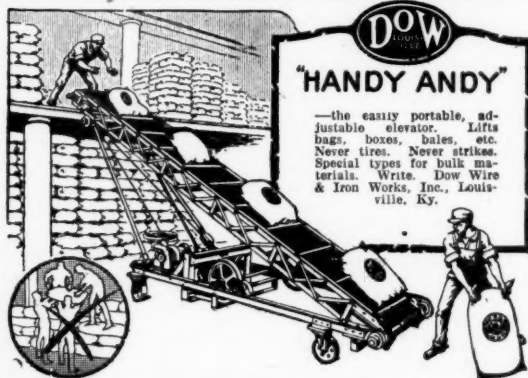
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WHO TOLD THE TRUTH ABOUT PRESIDENT WILSON?

DURING the early days of Mr. Wilson's illness his physicians and the White House authorities constantly insisted that he was not seriously ill and not in any danger. But Homer Cummings, as temporary chairman of the Democratic Convention at San Francisco, made the statement in his address that for weeks Mr. Wilson was lying at the point of death. Somebody has been lying. Was it the doctors and the White House authorities or was it the temporary chairman of the Democratic Convention? If the chairman was telling the truth, the doctors and the White House authorities committed an unpardonable sin against the American people and against Mr. Wilson himself when they so persistently denied there was anything critical in his illness. If they told the truth, then Mr. Cummings committed a still greater crime against the American people when he used such a statement in order to denounce the opposite party.

ARE COAL COMPANIES PROFITEERING?

IF coal companies insist upon priority in cars, let them voluntarily offer to put their whole business under the control of a committee made up of men not interested in the trade who shall have full power to fix the price of every ton as sold at the mine. The reports of wild profiteering in the trade, to the effect that the buyer who offers the biggest price always gets quick delivery, are so numerous that coal operators jealous of their honor should demand a full public investigation and themselves make a fight to weed out dishonesty and profiteering in the industry.

THE BETTER OUTLOOK FOR CROPS.

ABUNDANCE of rain and hot suns have brought revivifying power to the growing crops of the country and the promise of today far exceeds the Government's estimates of two months ago.

Nature has poured out lavish blessings in the last two months of wonderful growing weather, and unless all present prospects fail we shall have a far greater grain supply than seemed possible earlier in the season, thus saving us from a threatened shortage which was alarming in its possibilities of evil and of steadily mounting cost of foodstuffs. The crops are not yet safe, but they are daily gaining in promise of a fairly large yield. The margin of safety, however, is very narrow, and the real needs of our own country and of the world will far exceed our output, even if the full promise of today should be more than realized.

We are living in a riot of abundance and of luxury such as no other nation knows, and tens of millions in Europe and in the Orient are literally starving while we eat more than is good for our bodies and souls.

It would be well for us, therefore, to realize that out of our abundance we should send food to other nations that the starving may be saved and millions who now feel the pinch of hunger may be fed up to new vigor, for though man cannot live by bread alone he cannot live without bread and moral and spiritual progress cannot be made by individuals or by nations when dying for food.

Wheat of last year's crop remaining on farms July 1 is reported as 47,756,000 bushels, or more than 5 per cent of the crop. That added to this year's prospective production makes available about \$56,000,000 bushels of wheat, which, according to officials, will be ample to meet domestic requirements and leave a surplus for export.

The condition of the corn crop is reported not so good as a year ago, but the area planted shows an increase of 671,000 acres. Indications are that the crop will be 138,000,000 bushels smaller than last year's, but 19,000,000 bushels larger than the five-year average. The total corn production is estimated at 2,779,000,000 bushels.

Crop production indications July 1, compared with 1919 yield, and five-year average, 1914-1918, are as follows:

Product.	July 1, 1920, indications.	Yield 1919.	1914-1918 5-yr. average.
Corn, bushels.....	2,779,000,000	2,917,000,000	2,769,000,000
Wheat, bushels.....	809,000,000	941,000,000	822,000,000
Oats, bushels.....	1,322,000,000	1,248,000,000	1,415,000,000
Barley, bushels.....	193,000,000	166,000,000	215,000,000
Rye, bushels.....	82,000,000	88,500,000	59,900,000
Rice, bushels.....	52,100,000	41,100,000	33,400,000
Total bushels grain.	5,227,100,000	5,401,600,000	5,305,300,000
White potatoes, bushels	388,000,000	358,000,000	382,000,000
Sweet potatoes, bushels	98,500,000	104,000,000	75,000,000
Apples, bushels.....	200,000,000	147,000,000	203,000,000
Peaches, bushels.....	45,200,000	50,400,000	47,500,000
Total bushels.....	5,968,800,000	6,061,000,000	6,012,800,000
Cotton, bales.....	11,400,000	11,300,000	12,400,000
Hay, tame.....	84,800,000	91,300,000	81,400,000
Tobacco, pounds.....	1,501,000,000	1,389,000,000	1,188,000,000

"FACTS EMBARRASS ME."

IT is an infinite pity that men holding positions of grave responsibility are constantly putting forth statements which mislead the public and create an absolutely erroneous impression. One illustration of this is found in a recent speech by Senator Capper of Kansas, reprinted in part in Capper's Farmer. In that address Senator Capper stated that there were 79,642 American corporations which had gross profits of \$500,000,000 apiece in a single year. As there are only two or three industries in the country which have so vast a business as that of \$500,000,000, Senator Capper's statement is without the slightest foundation in fact. A total of \$500,000,000 for 79,642 corporations each would be a total of \$39,821,000,000, a sum so stupendous that the human mind cannot grasp its magnitude.

It is probable that, based on the total value of manufactured products in former years, the aggregate value of all the manufactures of the United States at the present time exceeds \$50,000,000,000 a year, but Senator Capper does not consider such trifles as this, and gives to 79,642 corporations a total producing power of \$39,821,000,000, or nearly 800 times the total value of all manufactured products.

A very large proportion of Senator Capper's speech is as inaccurate as is this statement. He has picked up here and there odds and ends of things, some of which are correct and some incorrect, and juggled them together in such a way as to give a wholly false impression.

Another statement calculated to thoroughly mislead those who do not understand the actual facts is that "in just one year during the war the gross income of American corporations rose from thirty-five and one-third billion to eighty-four and one-quarter billion dollars."

In the early part of 1914 this country was suffering an industrial and financial stagnation that was appalling. A large proportion of our manufacturing interests were headed straight for bankruptcy. The war turned the tide, and Europe's tremendous demand for everything which could enter into war created an enormous demand for our products and an enormous advance in their selling price. And in this connection the doubling of the value of the output of America's industry is not a matter for criticism, but a matter for commendation, in that it enabled America to save the Allies while we were halting as to entering the struggle.

Senator Capper also said: "Oil has advanced more than 650 per cent since 1915."

The average price of oil, as near as can be figured out from the United States Geological Survey reports, was 63.8 cents per barrel in 1915 and \$2 a barrel in 1919, or an increase, not of 650 per cent, but less than 214 per cent.

Senator Capper also complained bitterly against the increase of the percentage of profits of a number of manufacturing concerns. He should have borne in mind, in order to be entirely fair, that in 1914 the majority of manufacturing interests had very little if any profit, and the increase to a fair profit as compared with a very small profit, or of no profit at all, figures up tremendously in percentages. There are some industries, such, for instance, as the cotton mills, to which he refers, where the rate of profit has been entirely too large. This may have been true in a number of other instances, but it must ever be borne in mind that during the war the Government fixed the price for a large proportion of leading commodities, and definitely fixed it at a high price so that even small industries could live, and this for the purpose of keeping them going and getting their product. A price at which the smaller ones could live left a tremendous profit for the bigger industries. Moreover, the Government had in mind, and this was a part of the whole scheme, an income tax rate which

would absorb a very considerable proportion of all the profits made by the big industries. This plan of the Government was for the purpose of securing a very heavy income through indirect taxation, so far as the public was concerned, or by making the public believe that the corporation was paying the tax, whereas, as a matter of fact, it was fully understood that the corporation should pass it on to the public. And this was done with the Government's approval and through the activities of the War Industries Board, which fixed these prices.

It is unfortunate that Senator Capper, who has the power to lead or mislead the public, should give to his hearers in the Senate and to the readers of his publications statements so diametrically opposed to the facts, or else so twisted as to create a wholly false impression. It is through such work as this that the country is misled by men whose highest ambition should be to tell the truth, the whole truth, and nothing but the truth, seeking not personal preferment or advancement, but seeking to let the public know the actual facts.

A distinguished Southern orator, when dealing once with such unfounded statements as these of Senator Capper, was charged with not sticking to the facts, and his reply was, "Facts embarrass me." There are a great many people in public life today who are not embarrassed by facts. They simply ignore facts, and if facts are contrary to their preconceived notions, so much the worse for facts.

QUESTION AS TO WHETHER UNIONS OR COURTS SHALL BE SUPREME.

EMPLOYEES of the street car lines in New Orleans have been on strike. The street car property is in the hands of a receiver, and thus under the jurisdiction of the Federal courts. Some very wholesome doctrine has been expounded by U. S. District Judge Rufus E. Foster, who has furnished to New Orleans' newspapers the following statement:

"I notice in this morning's Times-Picayune the statement from Mr. J. B. Lawson, national executive officer of the Amalgamated Association of Street and Electric Railway Employees of America, that the real question now is whether the company will renew the old contract, with the understanding that the wage scale will be arbitrated.

"The issue goes far beyond this. The Constitution of the United States guarantees liberty of contract to all men. Every man has the right to belong to a labor union, or to remain out of it, or to withdraw from one after he has joined. The receiver also has the right to contract with an association in which he has confidence, and not to contract with an association he believes to be arbitrary and unfair in its demands.

"The old contract referred to by Mr. Lawson has many objectionable features, apparent on simple reading, to any fair-minded man. The receiver has found it impracticable to operate the property to the best interests of the public under its terms and conditions. He is willing to enter into a contract with his former employees collectively, provided the contract is entirely removed from the control of the Amalgamated Association.

"The order of court I issued when it became apparent to me that it was impossible for the receiver and the representatives of the Amalgamated to agree on a contract which gives the men everything they could fairly expect under a contract. It provides for collective bargaining, representation through committees of their own choosing and arbitration of wages. The men could return to work under its provisions without affecting their union affiliation in the least.

"The real question now at issue is, Are the courts of the United States to be governed by the Constitution and laws of the United States in their decisions, or be subjected to dictation from any organized group of men? This question is fundamental and paramount and superior to any temporary inconvenience the public may suffer, regrettable though that may be.

"I will not be intimidated or coerced in deciding this question by sympathetic strikes or political clamor. I expect all good citizens of New Orleans, whether laborers or capitalists, or that vast majority which falls into neither class, to support the courts of the United States. A proper decision of the question is vital to the very existence of our Government."

Priorities Are Ruinous and the Country Will Not Tolerate a System of Commodity Caste in Transportation

Illinois Central Railroad Co.,
Office of the President.

Chicago, July 7.

Editor Manufacturers Record:

I am in receipt of your courteous letter of the 25th ult. calling attention to an editorial in the MANUFACTURERS RECORD of June 24, in which you comment severely upon the action of the railroads in invoking the emergency powers of the Interstate Commerce Commission and upon the action of the Commission taken in response thereto. You ask for an expression of my views.

You characterize the action of the railroads as an "unpardonable error." Yet this declaration is immediately preceded by the statement that the crisis was a grave one, and that drastic measures were necessary. These statements are obviously self-contradictory, as a little reflection will show.

There seems to be a widespread misconception of what the carriers really did. In some quarters the appeal of the railroads to the Commission has been described as a confession of failure, as indicating a breakdown of the transportation system, as tantamount to a demonstration that private control had already proven inefficient. Nothing could be more erroneous. The Transportation Act recognizes that shortages of equipment, congestion of traffic and other emergencies will likely arise from time to time, which can be met only by extraordinary measures. Congress did not see fit to vest in the carriers the power to relieve such situations by giving priority to certain kinds of traffic, diverting others and refusing some altogether. It was evidently the purpose of Congress to lodge this power in an impartial body, enlightened by experience and possessing the confidence of the country. It was well known to the lawmakers that in the past congestions and delays to business had resulted from the inability of the carriers to free themselves from burdensome obligations, which were well enough in normal times, but which should not be permitted to prevent the application of effective remedies.

To meet this situation, Congress deliberately enacted those useful provisions of the Transportation Act, for invoking which the railroads have been censured. The situation was an extraordinary one. The roads were passing through a transition period. There was necessarily some tendency toward confusion, traceable to the fact that for 26 months the owners had not been operating their property. Traffic was heavy, labor none too well satisfied. On top of these disturbing conditions there happened an exasperating strike of certain switchmen and yardmen in some of the greatest terminal centers in the country—a strike which the railroad managements were powerless either to avert or to remedy. The railroad men knew what measures were desirable; they simply lacked the authority of law to apply correctives. Their course was open. The Transportation Act pointed the way. Under these circumstances, it was not only their privilege but their positive duty to inform the Commission of the situation and to suggest the exercise by the Commission of its extraordinary powers. Orders of the Commission permit, and, indeed, direct, the taking of needed measures of relief which would be, in ordinary situations, neither legal nor desirable. Why should the roads be blamed for availing themselves of provisions of law obviously enacted for just such emergencies?

As to your censure of the Commission for entering orders giving preference to coal in the use of open-top cars, little need be said. The Commission's judgment was, in my opinion, sound. Coal is the very basis of all industry. It must move if our life, physical and industrial, is to continue. The Commission has many reliable sources of information. It knew the needs of such sections as New England and the great Northwest, as well as the plight of public utilities in the great cities of the country. It doubtless had good reason to believe that if every open-top car in the country were devoted for 30 days to no other purpose than the transportation of coal, the situation would be only partially relieved. I do not doubt that the construction of roads is important, but surely not so important as heating and lighting the homes of the people. I do not believe any very considerable body of public opinion will be found supporting your contention in this respect.

Nor do I believe that the Commission has been arbitrary or that it has resorted to threats, as your article intimates. I have had some years of experience with that body. While I have not always agreed with its conclusions, yet I have never had the slightest reason to question its fairness or to criticize it on the score of its having taken hasty or ill-considered action. Just now it is bearing the burden of greater responsibility than it was ever before called on to bear. Perhaps it was to be expected that when it was obliged to take affirmative action in these matters it should

be denounced by interests which it could not favor. That is always the fate of those who must decide important issues and be responsible for important policies.

The Commission, like the railroads, is on trial. There is a vast difference between the mere exercise of the veto power and the initiation of constructive measures. The Commission is entering upon a new phase of its existence. It faces a tremendous task. Doubtless it will make some mistakes. But it will be vastly helped if all the interested parties, carriers and shippers alike, with confidence in its honesty of purpose and with faith in its sound judgment, will contribute what they can to aid rather than to retard its efforts.

Candor compels me to say that I do not approve your conclusions. Especially do I regret the bad temper which the article displays and the evident partisanship in which it is written. It is not a helpful article; it makes no suggestions which will commend themselves to experienced and informed men, either among shippers or railroad men; it sheds no clear light upon a problem at best intricate and difficult of solution. Let us all approach these questions with an earnest desire to be fair, to be informed and to be unselfish.

C. H. MARKHAM, President.

Mr. Markham's letter is written in good spirit and is characteristic of the general attitude of railroad executives.

Our editorial of June 24 discussed three propositions; (1) the blunder of the railroad executives in having petitioned the Interstate Commerce Commission virtually to resume Government control of the railroads of the nation; (2) the cavalier fashion in which certain subordinate officials of the Commission had treated representatives of industries seeking redress, and (3) the disastrous effect of any system of priorities and preferentials.

Mr. Markham takes the view that the crisis in transportation was of such a character that recourse to the extraordinary authority given the Interstate Commerce Commission by the Transportation Act was wise. We said that such recourse, in the circumstances, furnished capital for the advocates of Government-ownership.

It does not follow that because the crisis was a grave one it was wise to invoke the extraordinary power of the Interstate Commerce Commission. It is a power akin to the declaration of martial law, designed to permit the doing of things which, in the words of Mr. Markham, would in ordinary times be "neither legal nor desirable." It establishes, in other words, a dictatorship in transportation. In time of war this would be excusable, but to have recourse in time of peace to extra-legal powers and to exercise them strenuously is a dangerous expedient and establishes a precedent which, in the opinion of some railroad executives, is fatally bad. There is a factor which Mr. Markham ignores and which railroad executives have been in the habit of ignoring for years. It is public opinion—good-will—and it is more important even than the movement of a few freight cars.

Mr. Markham is quite right in stating that the appeal of the railroads to the Commission has been described in some quarters as tantamount to a demonstration that private control has already proven inefficient. It is the impression the whole nation has received. It may be erroneous, but it is being very sedulously cultivated by the proponents of Government-ownership, and no adequate answer to that view has been given. Mr. Markham himself admits that private management found itself impotent and could see no hope unless

through the exercise of autocratic powers such as no Government on earth would lodge in a private corporation. He has said, in effect, that only the Government itself was powerful enough to solve the situation, which is exactly what Mr. Plumb and his friends have been asserting right along. In other words, the executives decided that they could not operate the roads without the use of priorities. We say that they cannot operate the roads if they do use priorities. Priorities and private control are incompatible.

If it was the duty of the executives to make the appeal they did make to the Interstate Commerce Commission, then manifestly it was their duty months before to have notified the Congress that the time for the return of the railroad properties was not ripe, since functioning under normal powers would be impossible.

As to constructive suggestions, in the same edition as that carrying the attack on priorities, we published on our cover-page an article entitled "Where There is No Vision the People Perish." It contained a constructive suggestion which is worth repeating, because the plan will have to be resorted to sooner or later. We quote:

"The first move should be a frank acknowledgment on the part of railroad managers that, whether they are right or wrong, they want, in the interest of the great public, to have all of their work thoroughly investigated—not by legislative committees, but by men competent to do things. The first move to find an antidote for the poison should be a careful diagnosis, not by railroad men nor by legislators, but by committees of the ablest business men in America. Let the railroad people make the first move by asking men like Gary, Schwab, Ford and other great constructive leaders, but no Wall Street financiers; farmers of the highest business ability, coal miners, lumbermen, highway builders and representatives of consumers, to study in detail railroad management, to find out why railroads have ceased to function properly, and to suggest remedies for physical management and for changing public hostility to public friendship. Then, and not until then, will the railroad executives show that they understand the real problem that they face and the seriousness of the situation."

We are not unaware of the peculiar difficulties which have existed, nor have we underestimated what we believe to be a deliberate effort on the part of certain employees to prevent by the slow or overt strike efficient operation of the roads, but what we take exception to is the adoption by the railroad executives of plans which play into these employees' hands.

The Southern Railway, displaying that old American virtue of wanting to stand on its own bottom, has been out soliciting business and month by month has been increasing the volume of traffic carried. Can it be that Mr. Fairfax Harrison has a clearer vision than his associates and has decided to have his railroad do things for itself instead of turning despairing hands to the public Treasury and other governmental agencies? The one big railroad in the country that apparently wanted private control and believed in it thoroughly has set an example that makes some of the other railroads look positively foolish. The investing public, at any rate, seems to feel that way.

When the President took over the railroads it was stated that the system of priorities had so tied the railroads up that they were unable to function properly. Long lists had to be studied before it was known whether a shipment could be allowed to move or not. Mr. Markham and most of the other railroad executives now favor the general use of priorities. They will have to learn, sooner or later, that there can be no such thing in this country as caste in commodities. Once the practice is indulged in of special transportation privileges for special industries, there will be built up an edifice which will arouse the ire of the people more than rebating ever did, and they will tear the whole structure to pieces.

What ills follow the system are well known. Chairman Clark of the Commission called attention, for instance, to a letter from coal producers which informed consumers that while deliveries could not be made at prices arranged by contract, if the consumers would agree to pay a very much higher price immediate deliveries would be made.

Priorities have not only thrown thousands of men out of work, made profitless millions of dollars of machinery and put out of commission whole industries, but they have made of one industry a profiteer, which is certain sooner or later to lead to renewed demands for higher wages in the coal fields, which, in turn, if granted, will disturb the whole economic wage balance and lead to months or years more of unrest and disturbance.

The Republic is founded on a system of equalities. If the opportunity to do business can be made dependent on arbitrary decision in Washington, a business tyranny is necessarily developed. Priorities are fundamentally out of harmony with American concepts. Moreover, they represent "the easiest way," which is death to initiative and efficiency and ruinous to character.

A habit has grown up in recent years, typically bureaucratic, of generalizing a dilemma and offering it as an excuse for autocratic activity. The testimony does not justify the contention of Mr. Markham that the alternative of turning the railroads over to the coal industry is dark and freezing houses. We wonder if Mr. Markham knows how many idle steamers the Shipping Board has from Newport News to Baltimore, and if he is fully informed as to coal conditions at the export points. It is a peculiar thing that coal can generally be got when there is a willingness to pay heavy excess prices for it.

Mr. Markham and Mr. Willard do not seem to be in agreement as to the necessity of giving all open-top cars to the coal industry, since the latter testified in Washington last week that he did not believe it would be necessary "to wholly curtail the movement of any particular kind of business."

There are details which make the general conclusions of Mr. Markham of dubious value. The public may want to know, for instance, why the round trip of a coal car to Northern ports takes so much longer than the trip to, say, Newport News. It would like to know how much of the congestion, previously if not now, was caused by the selfishness of particular roads, and their insistence on piling congestion on congestion.

We quite agree that the Interstate Commerce Commission has a stupendous task to perform, and needs constructive rather than destructive criticism. We believe, indeed, that it is being asked to do more than any body of men can do, for concentrated authority has one inevitable restriction, and that is the mental capacity of the human being. But we are equally convinced that the terrific protest of the whole country against the open-top car order has been of the very greatest benefit. We look for some preferential treatment of coal to continue, but not in brutal form.

Priorities and private control are incompatible and antagonistic. Public sentiment would never tolerate them. Government favor means Government control, not only of the commodity favored, but also of the instrument of favor. Unless the railroads can very quickly function under private control without the employment of priorities, they will not remain under private control. Indeed, there is a strong movement under way already to secure the passage by Congress of an act depriving the Commission of the right to declare priorities except in time of war.

It was, indeed, favoritism in the form of rebates which brought about regulation and led ultimately to that strangling

process which killed enterprise and brought about the lamentable situation now existing. But there were few railroad executives at that time long-visioned enough to cut the Gordian knot of favoritism, just as there are few railroad executives now who can get their eyes away from immediate detail. A cure, even in railroading, may be worse than the disease. And we take it that the business men of this country, to judge from the volume of correspondence reaching this office, have no intention whatever of permitting the building up of a system of priorities in traffic, either through a Government board or by direct action of the roads. We go even further than that, and say that there are some executives who agree absolutely with the opinions we have advanced and who are long-headed enough to comprehend that since preferences in traffic are never fair, the employment of them is certain to be disastrous ultimately. Washington, in fact, is swamped now with a multitude of traffic experts, all trying to get special consideration. With favors being handed out, they want their share, and we have yet to hear of an industry which has not been able to present a very excellent argument in favor of special consideration.

Another reason why the priority system is vicious and dangerous is that it is based on a similarity of conditions in widely separated parts of the country. The issuance of a general priority order for all territory east of the Mississippi is foolish, and, if reports be true, the railroads themselves have generally realized it in that they have failed to comply fully with Order No. 7.

The country is not interested in excuses. A significant feature of Americanism, we believe, is success. The railroads failed miserably years ago in permitting, even inviting, a public hostility that was certain to have calamitous results. Railroad management failed also adequately to support Mr. Hill when he was crying that \$5,000,000,000 must be spent at once to bring the roads up to the requirements of traffic. So railroad management is in danger of failing now properly to measure public sentiment, for the general good-will which attended the return of the properties is being alienated.

We favor now, and have repeatedly urged, extremely liberal treatment for the roads. We hope they are going to be given the full rate increase for which they asked. Good service at any price would be cheaper than the poor service which has been given. But there will be absolutely no hope in the situation if the executives, after they get the increase, content themselves with the Government assurance of permanent rates sufficiently high to yield a 6 per cent return and fail to tackle the whole problem in a convincing way. Certainly it is almost inconceivable that a group of executives who are most active in reciting the difficulties encountered and the congestion in the East should be the very ones who were recently, and are now, most emphatic in their protests against the continuance of rates which would permit some of the traffic to move through Southern ports where there is no congestion. It is extremely difficult, we should say, to reconcile the positions of Mr. Willard on these two points.

We did not say that the Commission itself had been arbitrary or had resorted to threats, but we did very strongly intimate that subordinate officers, clothed with large powers, had done so. Our information is such that we do not care to withdraw that intimation. It was based on fact as reported to us by responsible gentlemen in whom we have confidence. The Commissioners themselves, we agree with Mr. Markham, are fair-minded and are seeking as best they may to find a way out of the morass.

Mr. Markham doubtless knows that there are influential groups, not confined to one party, who favor the introduction into Government of the Industrial Cabinet. They want each basic industry to be under the control of an officer in Washington, as happened when the War Industries Board was

functioning, and they want this officer to fix prices, oversee distribution and have a firm hold on the particular industry in his charge. The idea has been successfully advanced in the case of banking; so much so that one man in Washington holds virtually the life of any national bank in the country in the hollow of his hand. The thing next important to finance was transportation, and the same idea of a make-or-break power in Washington seems to have been incorporated in the Transportation Act. The movement is progressing to get the same sort of stranglehold on coal. While questioning not in the slightest the integrity of purpose or the patriotism of the men favoring such concentration of power in the Government, it is, in our opinion, the most dangerous sort of tendency, striking at the roots of the American system and full of menace to continuance of our form of government. The railroad executives have been playing into the hands of those favoring this concentration of complete authority over the business of America. They will pay over and over again in the future for any immediate gain that policy may at this time offer.

The opinions of Mr. Markham on any rail subject are necessarily of great value, and it is to be regretted that our previous article should have impressed him as in bad temper. But the hearing in Washington last week in opposition to Order No. 7, when the representatives of many States protested against the ruling, and when industry after industry showed how injurious the order was to them, would surely lead to the conclusion that Mr. Markham is in error in his belief that no considerable body of public opinion will be found supporting the view which has appeared to us as logical and fair.

The following letter, for instance, from Charles Piez, former head of the Emergency Fleet Corporation, is typical of many others which have reached this office:

Chicago, Ill., July 10.

Editor Manufacturers Record:

"I want to commend you for your extremely able presentation of the railroad situation as it affects the industries in your editorial of June 24. The country recorded itself overwhelmingly in favor of private operation of the railroads, and yet the railroad officials themselves surrendered their authority and their control of railroad properties to the Interstate Commerce Commission. It was, to my mind, an exceedingly unwise and by no means courageous step, for it has convinced many people who are averse to Government ownership that railroad management is unequal to the demands made upon them, and lack the determination and courage to fight for a proper treatment of their properties on behalf of the Government.

In spite of the general conviction that one of the prime causes of railroad inefficiency at the present time is the total destruction of credit which Government operation and an adverse public opinion have brought about, and in spite of a law which fixes a return, although an inadequate one, under present financial conditions, the Interstate Commerce Commission is delaying the determination of rate advances and keeping the railroads dependent on the charity of the taxpayers. No wonder the morale of railroad operators has been destroyed and their courage sapped. The Wage Adjustment Board did not begin its sessions until six weeks or two months after the adoption of the bill that created it, and it has been so long in its deliberations that the railroads find it impossible to properly man their operations.

The industries have suffered very materially by reason of the failure of transportation, and have been forced to ask for larger credit because of the accumulation of finished material which the lack of proper railroad facilities prevents them from shipping.

The drastic order of the Interstate Commerce Commission granting absolute priority to the coal mines for a period of 30 consecutive days is a further step in the demoralization of industry—a step, too, taken at a critical time and without, I am afraid, a sufficient consideration of its effect. Certainly so drastic a step should not be taken without giving the industries an opportunity to appear, nor is the arbitrary attitude of the Commission toward the protests made because of this drastic order, an indication that it has given due consideration to all of the conditions and circumstances that play so important a part in the conduct of industry.

On that account I want to commend you for the very terse and very fair presentation of the case in your editorial.

CHARLES PIEZ, President.

REDUCE PRODUCTION COSTS AND AID IN RESTORING SOCIETY'S EQUILIBRIUM BY INCREASED PLANT EFFICIENCY.

SOCIETY has been suffering from a bad case of nerves and the whole business and industrial world has been upset by the war. Theories of this and that cure-all have been prescribed by doctors and quacks which only intensify the situation. The real remedy is found in the use of sound business judgment, common sense and the application of modern business methods which have produced results that are known facts and not theories. Therefore, upon the business men of the country rests the responsibility of restoring to normal, or rather of stabilizing present unsettled conditions, for it is doubtful if the world will ever go back to the pre-war standard of living.

The more progressive manufacturers and business men realize that back of all the unrest of the aftermath of war is the high cost of living resulting from underproduction, whether caused by inefficiency and shorter hours of labor or inadequate transportation, which is but another name for the underproduction of railroads. With this diagnosis, business men of discerning mind began perfecting their organizations and methods looking to a means of decreasing the cost of production, which, if followed in the production of raw materials through all lines to the ultimate finished product, would greatly reduce the cost of living.

Take a concrete illustration of how one manufacturing concern is decreasing operating costs and increasing production as typical of what can be accomplished toward solving the problem of unrest and high prices. F. S. Chavannes, president of the Chesapeake Iron Works, Westport, Baltimore, builder of steel buildings, bridges and electric traveling cranes, says that his company is getting increased efficiency from employees, and has secured a reduction in labor costs of one-fourth to one-third on some operations without in the least cutting quality, but rather advancing the standard of the output. Like thousands of other concerns, the plant was in no way an obsolete one, and was thought to be fairly efficient. Investigations, however, showed ways for many improvements. In this Mr. Chavannes does not claim to have done anything new or revolutionary. By simply giving a more intelligent study of every phase of operation, which is being done in varying degrees by many concerns, with the view to cutting out all unnecessary moves in the manipulation of a machine and in the handling of material, and by adding appliances for doing work better in a shorter time, as well as the addition of some new machines to thoroughly modernize equipment, there were many improvements made for increasing efficiency.

In one case it was found that to finish a certain piece of work 1143 hours of labor were required. Under a new method of operation employed as a result of the investigation, and after an appliance was installed, similar work was turned out in 734 hours—a saving on one job of 409 hours, or over 33 per cent in labor costs. With more experience on this particular job it is expected the cut in labor costs will amount to as much as 50 per cent over the former method employed. On another job five men, working two hours, were required to finish a certain piece on a certain machine. Upon the application of more efficient methods in operation and the addition of an appliance, two men, working one hour, were able to do the same job on the same machine. The company is now working out a scheme by which it intends to divide with the employees on a particular job the difference in labor costs saved over the original estimate of the work. If it is estimated that 1000 hours are required to do a certain piece of work, and the men turn it out in 500 hours, those on the job will receive their proportion of the saving in labor costs.

The management is not content with making these improve-

ments in operation, but is planning and studying all the time every phase of the work, trying in every way to cut production costs and improve product. On these facts Mr. Chavannes bases his conclusion that the high cost of living can be reduced, for he says if his company is able to make such a showing, other concerns can do the same thing. Followed to the logical conclusion, therefore, all commodities would be less to the consumer.

Mr. Chavannes takes the position that the high cost of living problem and the prevailing unrest of labor can be solved only by increased efficiency in plant management and increased output. He says it is up to the business men of the country to bring about, by modernizing plant operations, purchasing new equipment and machines wherever necessary, a decrease in cost of production. In fact, he believes that those who have not seen the light in this respect, and still cling to out-of-date and costly methods of operation and equipment, will not be able to meet the competition of other concerns which are working toward a reduction in operating costs. Many concerns have made money during the last few years, and those that are wisely using some of this in the development of plant efficiency by installation of new appliances and machines will not be the ones that will have to fight to keep out of receivers' hands. It will be a case of the survival of the fittest.

Mr. Chavannes takes no stock in the theory advanced that the only way to reduce the high cost of living is by forcing wages back to the pre-war scale, or normal conditions, as erroneously viewed by some people. We are living and working under entirely new conditions, and the eight-hour principle, he believes, is here to stay, and he also is in thorough sympathy with the present scale of wages. Workers are living in greater comfort and are enjoying more conveniences than ever before in the history of the world, which is right and just. But it is emphasized that for them to continue to enjoy such benefits they must be efficient, giving an honest day's work for an honest day's pay. Under the stress of war and disorganization and expansion of plant forces, workers in many industries adopted the false ideas of economic conditions so glibly presented by enemy agents and agitators. Many of them are beginning to realize that the vicious, dishonest practice of doing as little as possible on a job does not create more employment, but that it only tends to boost prices still higher.

Adhering strictly to the open-shop principle, Mr. Chavannes says that opportunity is offered to every man the right to work in his plant, whether he belongs to a union or not, and that no discrimination is made against the union man so long as he does his work properly. He is a firm believer in co-operation and personal touch between employer and employee, treating with them as man to man. Ways are provided for the meeting together of the various departments, employer and employee meeting on equal grounds, which gives that intimate personal contact which can be acquired in no other manner. A feature of this work is the annual picnics given by the management to the employees. In short, the motto of the plant's management is treat others as you would like to be treated yourself.

BALTIMORE'S MISFORTUNE.

ALL the cranks, all the weak, namby-pamby, brainless parlor Bolsheviks, all the Red radicals, all the Socialists, all the pro-Germans, all the pacifists, all the "conscientious objectors," all who welcome and uphold the blatant alien agitators who seek to overthrow our Government can find congenial companionship in the third party crowd which garbs itself in the livery of Heaven to do the devil's work. Baltimore is one of the hotbeds for breeding such men, and the worst of it is they take themselves seriously.

European Cotton Manufacturers Still Cry for More Cotton and Cheaper Cotton

THE recent International Cotton Congress in Zurich, attended by representatives of the cotton mill interests of Europe, does not seem to have been different in any important respect from the congress of 1904, which the MANUFACTURERS RECORD has repeatedly referred to as showing the spirit of European cotton manufacturers in their ceaseless effort to break down the price of cotton.

At the congress held in June last a scheme was proposed by a British delegate "for the creation of a huge international cotton reserve." The plan provided for the appointment of a special committee, whose declared purpose would be that "when cotton fell in price, for example, to 15d. per pound, the committee would go into the market and buy up 1,000,000 bales, and then, when cotton rose to 24d. per pound, the committee would begin to unload its million bales on the market," using this reserve stock as a club to break prices. It was admitted, however, that present high prices made the time not yet opportune to put the scheme into effect, but it was regarded by the congress as a definite future possibility.

There was nothing new in that proposition. At the International Congress of 1904 Mr. H. Higson, an English manufacturer, in continuation of the discussion which was very active at that meeting against the higher price of cotton then prevailing, said:

"We are anxious that history shall not repeat itself. We are anxious to have larger quantities of cotton at a cheaper rate."

That has been the cry of the cotton manufacturers of Europe for the last hundred years.

Herr Kuffler of Austria, in discussing the same subject at the 1904 congress, said:

"We have been shown that more cotton can be grown, but that is not all we want. We want cheap cotton. * * * With cotton at 7d. or 8d. it might pay to grow it in many parts of the world, but we hope cotton will go down again, if not to 3d. to 4½d."

And he added: "We ought to try to find out where cotton can be grown the cheapest, and then combine to assist cotton growing there."

One of the plans suggested at that meeting of 1904, which seems to be in perfect harmony with the one offered at the meeting in June last, was for the organization of a company to buy and carry as a club over the market a big amount of cotton. Herr Kuffler, in speaking on this subject, said that it was necessary to have a big amount of cotton in hand to be able to influence the market in the interest of the spinners; and he added that under this arrangement the spinners could buy when prices went down, and if necessary, in the opinion of the committee, the cotton could be thrown on the market when prices went up, and thus with the least possible risk to the manufacturers this "would have an influence on the market which it not now possessed." This was followed by the offer of the following resolution:

"That, subject to the approval of the majority of the associations, an international committee be appointed to watch over the interests and to advise spinners' associations as to action to protect their interests against any common danger to their trade."

The danger to the trade, as they viewed the situation, was the danger of a living price to the cotton grower.

Sir C. W. Macara, the president of the Federation of Master Cotton Spinners' Associations of England, and also the president of the 1904 cotton congress, said that "no combination of holders of any raw material can long stand against a combination of the users of that material," and he does not

seem to have changed his opinion on that subject, for at the June congress of this year he read a paper, published in the MANUFACTURERS RECORD of June 24, in which, referring to the action 16 years ago of forming a world combination of mills to curtail production in order to reduce the price of cotton, he said:

"The response gave the world a wonderful example of solidarity in an industry, both capital and labor submitting willingly to the sacrifices involved. Those sacrifices saved the cotton industry of the world. The call on the raw cotton market was eased, prices on the American market broke, and the speculators were defeated."

Speculators, according to Sir Charles W. Macara, seem to be those who seek a living price for the South's great staple, while those who seek to bear the price for their own profit are holy men worthy of all praise.

In the 1904 meeting Baron Cantoni, president of the Italian Cotton Manufacturers' Association, commending the position that had been taken by other cotton manufacturers, said:

"Whatever we can do to master the cotton market, or to keep people from abusing their mastership of it, we should do, and nothing will help so much in this direction as the provision of larger supplies of cotton."

It would seem that the foreign cotton spinners will never learn even a modicum of common sense, nor understand the ethics of their relation to the world trade. When they gathered in this conference in June, having back of them a year or more of the most amazing profits ever made by any industry in the world—profits so far beyond even profiteering that they have been called "ungodly profits"—these men still were fighting for lower prices for cotton! They did not vary the arguments on the subject from those which have been put forth in Europe for the last hundred years. One can go back for a century in the records of the European cotton industry and find exactly the same line of argument, and in some cases almost the same wording used as to developing cotton growing elsewhere, so as to lessen dependence upon the South, and we hear ceaseless arguments for more cotton at lower prices and in favor of breaking down the price of cotton, though nearly one hundred English manufacturers were in this country last year and learned from personal experience that the cotton-growing interests of the South had been cursed by the low prices which had prevailed for the last fifty years.

We confess that we cannot understand the ethics of great manufacturers, leaders in world trade, who are so obsessed with their own desire for a lower price of cotton that, regardless of the fact that through lower prices of cotton they have been instrumental in chaining the cotton growers of the world to economic slavery, they still adhere to the same doctrines.

The cotton growers of India, earning but a few cents a day, living in the direst poverty, would be tremendously blessed by a higher price of cotton. All India would be lifted out of the fearful poverty existing in that country if the cotton manufacturers of Europe would unite in favor of a profitable price to the Indian growers, regardless to some extent, if need be, of their own individual profits.

There are some cotton manufacturers in America who are broad enough and honest enough and Christian enough to be willing to see the grower earn a fair profit, but the cotton manufacturers of Europe, and some in this country, have long sought to hold the price of cotton at such a figure as to enslave the cotton growers of the South in a poverty which has kept hundreds of thousands of women and children in the cotton field and caused much of the illiteracy of the South.

The slavery of the black man prior to the Civil War had some redeeming features. Under that slavery, unwise from

every point of view as it was, the negroes were civilized, and a very large proportion of them Christianized. With few exceptions, their owners gave great personal attention to their moral, spiritual and physical welfare. But the curse of the low price of cotton fastened upon the South by the cotton bear gamblers and such cotton manufacturers as joined the gamblers in beating down the price of cotton has not one redeeming quality to it. The motive back of it is the same, and the effect is worse than the effect of the black man's slavery, bad as that was, viewed from the standpoint of economic development and of human liberty.

Any men in this country or in Europe who are fighting against a full price to the cotton producers are guilty of a crime as great as that of the professional slave trader, who was always regarded as the lowest of earth, because they are enslaving women and children and seeking to hold them in abject poverty and illiteracy for their own selfish ends and to fatten their own purses. Strong language, we grant, but the day will come when they will be universally so regarded.

If European spinners do not take a broader view of the situation, if they do not recognize the justice of a full price to Southern cotton growers, it will become the bounden duty of every man who is interested in the progress of the people of the South to work day and night to induce the South to abandon its worship of cotton growing and center its activities upon food production, because in food production the South has a larger opportunity than it has ever had in cotton. Every farmer in the South has a moral right to abandon cotton raising whenever he can turn his land into a more profitable crop; and to a large extent the more profitable work of the Southern farmers would be a full diversification of agriculture, increasing thereby the food supply of the nation, which is growing desperately short.

Indeed, it might almost be said that there is resting upon the South, as the only section of America which can increase our food supply, a moral obligation to concentrate its energies upon the raising of food in order to lessen the terrific cost of living, which shows no signs whatever of abatement.

Business intelligence, ordinary common sense and the ethics of common morality would seem to point to the danger that the South will cease to raise cotton entirely unless the spinners of the world cease their fight to break down the price, a spirit typified in the oft-expressed desire to create a great stock of cotton with which to beat down the price whenever it advances above what they want to pay, and that is a scheme which has been in the minds of foreign buyers since 1904, and was reiterated at the Zurich conference a few weeks ago.

THE NATION PREFERS TO BE HONEST.

Allen-Oden Ore Co.

Birmingham, Ala., July 2.

Editor Manufacturers Record:

Your editorial entitled "What the League of Nations Would Have the Power to Do" in your issue of June 24 is all based on an erroneous premise, as the writer understands the workings of the League of Nations, and therefore is all sophistry. None of the things that you claim can be done under the League can be done without the full acquiescence of the United States if we were a member, for nothing of this nature can be done unless it be unanimous. Therefore, should the United States not desire to go to war in defense of any of the principles you state, they could nullify the project by simply voting no. Is this not true? If so, you should be courageous enough to say so in your paper, and not deceive the people as you are continuing to do.

W. S. ALLEN.

It may be that the United States could repudiate the obligations entrance into the League would entail. The point was discussed at length at the conference of members of the Senate Committee on Foreign Affairs with the President a

year ago. The Senators were convinced that a legal obligation was created to do the things which we, in our article of June 24, referred to. The President doubted the legal obligation, but stated explicitly that there was a moral obligation, which, to a high-minded nation, would be more binding than any merely legal compulsion could possibly be. The President himself has stated it with convincing force. "There is no escaping the moral obligations," he wrote, "which are expressed in positive terms in this article" (Article 10).

On May 31, 1919, addressing the representatives of smaller European sovereignties, who were obdurate as to the rights of minorities clauses, the President declared:

"If the world should be troubled again, if the conditions which we all regard as fundamental are challenged, the guarantees which will be given to you will pledge that the United States will send its army and fleet across the ocean."

We do not care to discuss the possibilities of our being able to wriggle out of definite pledges made by the nation. We do not believe that any decent-minded citizen of the country wants us to enter the League with our fingers crossed. We must enter the League with an honorable intent to do what we pledge ourselves to do, or we must not enter it at all.

UNFULFILLED PREDICTIONS.

COMMENTING on the fact that Ellis Island, New York, is swamped with inflowing immigration, which reached 31,000 during the first 20 days of June, and 6200 on two recent consecutive days, the Sun and New York Herald said:

"And this in the face of the mournfully compelled prediction that with prohibition dominant here the immigrant would shun our shores as he would a pestilence! It is upsetting. It is one more of those impertinent intrusions of the reactionary spoke of fact into the wheel of theory which so often has disturbed the orderly processes of prophetic proclamation."

Practically all of the predictions made by those who fought prohibition have been proven to be as groundless as was the prediction that the immigrants would shun our shores because they could not get whiskey and wine and beer. One wail sent up by the whiskey element was the fearful destruction of property used by saloons for which there would be no demand. This proved false, and saloon property has been in demand all over the country for better purposes. Another was the great loss that would fall upon the farmers because of the lack of demand for their grain, so largely used in the liquor business. The farmers have found a demand for all that they could produce, and had there been any increased demand for grain for the making of whiskey and beer the food consumers of the country would have had to pay still higher prices than they have had to do. Breweries are being turned into ice factories and into many other industries, all of which are of far more benefit to the country than they were as formerly used. Another great cry was that thousands of people would be thrown out of employment and there would be suffering because of that. But the demand for workers has been, and is still, greater than the supply.

So far as immigration is concerned, we might very well have taken the ground that all immigrants who did not desire to come to America because they could not fill themselves full of strong drink were not desirable, and we would be infinitely better off without them than with them. Bainbridge Colby, now Secretary of State, when a member of the Shipping Board predicted that prohibition would lessen shipbuilding efficiency, even when the facts then in his own office proved the reverse to be the case. But what are facts to the liquor-interest advocates? Colby included.

One by one the predictions of the liquor traffic people have been swept away, and they now have no ground on which to stand and no liquor in which to swim.

POSSIBILITIES OF ELECTRICITY AS A RAILROAD MOTIVE POWER.

IN view of the tremendous demands which modern commerce and industry are making upon the world's supply of coal, the Chicago, Milwaukee & St. Paul Railway Company's 649 miles of electrically operated main line is commanding especial attention and study. Beginning at Harlowton, Mont., some years ago, electrification has recently been completed between that point and the Pacific Coast terminals of the railroad at Seattle. Although the use of electric current for terminal and suburban services, and also for some comparatively short routes, as for instance the Pennsylvania Railroad's electric line from Camden to Atlantic City, N. J., has been familiar for years, this is the first instance of its extensive employment for operating railroads over long distances. This gradual growth has followed the first and successful installation of heavy electric power for regular railroad service on the Baltimore & Ohio Railroad belt line at Baltimore in the late nineties.

The possibilities of reducing the railroads' demands upon the output of the coal mines by the substitution of electric power for steam power upon lines where such a change would be advantageous are among the thoughts now engaging the attention of engineers having to do with traffic problems. In an address lately made by E. W. Rice, Jr., president of the American Institute of Electrical Engineers, before a meeting of that organization, he remarked that where electrical operation had supplanted steam on railroads there had been shown a 50 per cent. increase in available capacity of existing tracks and other facilities. Continuing, with reference to the consumption of coal, **President Rice said** that according to estimates 150,000,000 tons of coal were consumed by railroads in one year and that results of electric operation of railroads have made it known that it would be possible to save two-thirds of this coal if electric engines replaced steam locomotives. Thus, only 50,000,000 tons would be burned instead of 150,000,000. These figures are based upon the assumption that electric power would be generated in power-houses which now use coal as fuel. Were water-power used altogether, all such coal would be saved.

President Rice further observed that 25 per cent of all the coal that is mined is employed in railroad operation and that the same amount of coal burned to produce electricity would give three times as much power as the use of it to produce steam power. **Electricity therefore makes the coal three times as efficient.**

These reflections and observations are useful principally for guidance; it cannot be expected that any general conversion of railroads from the use of steam power to the use of electric power would take place, because, as Mr. Rice truly comments, in a majority of instances electrification would be economically unsound at the present time. But he thought, nevertheless, that electrification is bound to come, although not "through wholesale and revolutionary methods." He pointed out the enormous capital outlay which would be necessary, and, besides, every railroad and its peculiar conditions constitutes a separate problem to be studied and solved.

Considering the available water-power for the production of electric current, Mr. Rice noted that 70 per cent of the 200,000,000 potential water horse-power of the country is situated in the Western mountain States and the Pacific States. To govern the utilization of these natural sources of power the Water-Power bill was recently passed by Congress, but that applies to water-powers on public lands. In other parts of the country much development has been made privately, for instance in the South a large water-power company produces annually power equal to the use of 900,000 tons of coal, and numerous other instances could be cited elsewhere to show

what is possible in as yet untouched regions. Just how much of this potential water-power could be employed in connection with the electric operation of railroads one is unable to say without a detailed study of natural and railroad conditions.

The Norfolk & Western Railway has for several years operated about 30 miles of its main line in the vicinity of Bluefield and Vivian, W. Va., with electric locomotives, but the power which drives them is generated by the burning of coal. The economy of this method of operating, already explained as to the amount of coal used to produce a given amount of power, is made more apparent when it is recalled that at the time this installation was completed attention was directed to the fact that while the electric locomotives used power when they were running up a grade, they became generators of power when they were running down grade, restoring this newly generated force to the wires for the use of locomotives on the ascents.

These two instances of using electric power for operating main line railroads in heavy traffic, viz., those of the St. Paul route and the Norfolk & Western, have awakened deep interest among men who are engaged in constant consideration of our transportation problems. The Baltimore & Ohio Railroad, which has some heavy grades upon which electric power would in all probability yield considerable economies, has been looking into the matter, and maybe something will come of it when conditions for financing such large operations as conversion of part of its line from steam to electric operation have become much more favorable than they now are. Other roads are also investigating, as the new power, at least in the two conspicuous instances mentioned, has yielded highly satisfactory results.

THE SHIPPING BOARD DECLARES FOR THE "OPEN SHOP."

THE Government of the United States is the Government of the whole people. Its powers cannot be exercised in behalf of any particular clique, clan, interest or organization without impairment of sovereignty and without injustice to the great mass of citizens.

It is peculiarly meet and proper, therefore, that Admiral Benson, as chairman of the Shipping Board, should put that governmental instrumentality firmly on record in favor of the "open shop." Because it lays down a principle essential to the well-being of this country, the following telegram is worth reading:

Washington, July 2.

President Waterfront Employers' Union,

-San Francisco, Cal.:

Further complaints are received that your organization is continuing discrimination on Shipping Board vessels. The Shipping Board must insist that proper longshoremen be given an opportunity to work on its vessels regardless of affiliation with any particular organization. No other position is compatible with equality of opportunity for employment, which must be preserved in the public service. We do not intend to prohibit rational discrimination against individuals on account of their reputation, known participation in attacks on person or property in the course of industrial disputes, disloyalty or other legitimate disqualification for employment justifying their rejection by responsible management, nor can there be objection to reasonable means to establish the identity of such persons. Such means must under no circumstances be permitted to become or to be used as a means of arbitrary discrimination in employment. I have stated our position thus clearly in order that we may not be misrepresented by interested parties, and authorize you to give this telegram such publicity as you desire. (Signed) BENSON, Chairman.

The right of any man to work "regardless of affiliation with any particular organization" must be forever preserved in the United States.

RAILROAD FACILITIES MUST BE ADEQUATE TO HANDLE THE NATION'S COMMERCE.

IN a letter to the MANUFACTURERS RECORD, Mr. Howard Elliott, chairman of the Northern Pacific Railway Co., writes:

"I have read with interest your two statements, as follows: One, 'Where there is no vision the people perish,' published June 10, and the other, 'To save ourselves we must save the railroads,' published June 29. There is much of sound truth in them.

"I think the majority of railroad managers appreciate their position of trusteeship, and are doing everything they can to act along broad, sane and courageous lines. The public, however, have only awakened to the seriousness of the situation within the last year, and we are apt to have some difficult times before the railroad transportation machine is brought back to that relation to the country and its productive activities that ought to have been maintained steadily during the last fifteen years.

"Some of us, myself among the number, have spent a great deal of time and energy ever since about 1907, pointing out the dangers, but until the danger came right up to us it was hard to make the country realize it.

"Thinking you will be interested, I enclose copy of my opening statement before the Interstate Commerce Commission in regard to the revenue needs of the railroads under the conditions existing at the present time."

Mr. Elliott is quite correct in saying that he is among the number of those who have spent much of their time since 1907 in pointing to the dangers which we are up against at present. Mr. Elliott was one of the far-seeing railroad men, but not all railroad presidents would recognize in advance the things that he saw. The country is now up against what Mr. Elliott and some others saw so clearly many years ago, but which neither the Interstate Commerce Commission nor the public at large would see. The country is, therefore, paying for its blindness and paying for the costly blunders of the Interstate Commerce Commission. The supreme question now is how to overcome this situation at the earliest possible moment.

SULPHUR AS A FERTILIZER.

THE use of sulphur as a plant food is not altogether new, but the work done by agricultural experimenters had not been widely heralded, and was quite unknown to the general public until a series of articles by Courtenay DeKalb was printed in the MANUFACTURERS RECORD a year or so ago. The results obtained with raw sulphur as a fertilizer seemed amazing, but Mr. DeKalb cited examples from all over the world, and he presented an explanation of the technology of the case that was convincing. Other prominent scientists supported his statements. The publicity then given to the matter has borne remarkable fruit. A demand for ground sulphur has arisen all over the country. We are told that the specifications of farmers from many parts of the South for a certain percentage of raw sulphur in their fertilizer has led one large Chesapeake Bay manufacturer to carry a standard mixed fertilizer containing from 50 to 150 pounds of the raw ground sulphur per ton. The following letter shows what is being done with sulphur as a fertilizer for alfalfa. The first phenomenal successes with sulphur were achieved on the alfalfa farms of Oregon, where the State Agricultural Experiment Station reported increases of 400 to 1000 per cent by the application of 300 pounds of sulphur per acre:

Texas Sulphur Co., Inc.

Orange, Tex., June 30.

Editor Manufacturers Record:

The Texas Sulphur Co., home office Orange, Tex., has completed construction of its agricultural sulphur plant at El Paso, cost approximately \$150,000, and will start operation September 1, preparing sulphur for agricultural purposes, for which there is a great demand at this time by the alfalfa growers of the Northwest,

who claim phenomenal results in increasing their yield of hay by using sulphur as a fertilizer. It is reported that one application of sulphur is effective for four years, giving a return of an additional ton of hay per acre per annum, and that the use of sulphur has decreased the alfalfa growers' fertilizer bill about 75 per cent.

The Texas Sulphur Co.'s mine is situated in Culberson county, Tex., the sulphur occurring in a soft rock formation, outcropping at the surface of the ground, permitting mining with a steam shovel.

A fleet of five-ton Mack trucks and trailers, the first unit of which has been delivered at the mine, will transport the ore from mine to railroad for shipment to the plant at El Paso.

H. M. TIPETT, Secretary.

In Western Texas exists a large area of limestone and gypsum impregnated with sulphur, and it was pointed out by Mr. DeKalb that this material was an ideal combination, since the sulphur was accompanied by a sufficient amount of lime to serve as a protection against acidity. It only required to grade the material coming from the quarries and grind it. The industry promises to grow rapidly in importance, not as a competitor with other fertilizers, but supplementing them in a most useful way, and leading to extraordinary results when intelligently applied.

GREAT BRITAIN CAN CARRY HER DEBT SUCCESSFULLY.

RESULTS of a consideration of Great Britain's public finances are graphically presented by the Bankers' Trust Co. of New York. It now appears that half—if not more than that proportion—of the \$8,000,000,000 which she loaned to her allies during the Great War will have to be cast into the profit and loss account. In American slang, it will be "chalked up on the ice." Moreover, Great Britain borrowed from other countries, and principally from the United States, about \$6,500,000,000, and she advanced about half a billion of dollars to her dominions. Further advances, provided for in estimates for 1920-1921, will raise the total of advances to about \$9,000,000,000.

Allowing that the indebtedness of Great Britain's allies to her can be cashed in at about 50 per cent of their face value means that the national debt of Great Britain after the war is about \$35,000,000,000, or 30 per cent of the national wealth of the country, which is estimated at approximately \$120,000,000,000, and this is put down as being in the same ratio as the debt of Great Britain stood to the nation's wealth after the end of the Napoleonic wars, a little more than a hundred years ago.

Therefore, notwithstanding the magnitude of Britain's war debt now, it need not be deemed appalling. As she did in 1815, so Great Britain did in 1918—emerged from the greatest of wars with heightened prestige and greatly increased possessions. Besides, not only is she not confronted with the duty of carrying a burden too great to be borne, but she is in a better position to carry her proportionate debt than she was when the military career of the first Napoleon was terminated at Waterloo.

With a strength in both the financial and commercial markets of the world that has never been surpassed, we find Great Britain today in a position, notwithstanding political troubles, from which she may view with confidence the prospects of the future. Great as is her national debt, she can successfully carry it. Her merchant marine is worth more than ever by many millions of pounds sterling; it is busy to the utmost limits, and her merchants and manufacturers are reaching out confidently after a greater share in the trade of the world. Resourceful in the extreme, Great Britain can gaze with unflinching courage into the eyes of her rivals, relying, as she has done in the past, upon the native grit and ability of her people.

BUILDING CONSTRUCTION COSTS AND THE OUTLOOK.

INCREASE in the cost of building in the country is indicated in the report of the Mayor's Housing Conference Committee of New York city, which shows that building material and wages have advanced since 1914 over 100 per cent. The findings of the committee cover every field of the cost of construction. Advances in the prices of building material range from 10 per cent in one item only out of 115, while the majority have increased over 100 per cent. Of the 115 items, 26 have advanced 200 per cent, and 14 items have risen above 300 per cent since 1914.

Labor costs, while they have not reached the percentage of gain in material costs, have risen 300 per cent since 1914 in the rate of wages paid to common laborers and plumbers' helpers. Out of 49 kinds of labor, workers in 22 industries have had their wages raised 100 per cent since 1914, and in 25 other industries wages have increased between 50 and 99 per cent.

The percentage of increase in the cost of some building materials in 1920, compared with 1914 prices in New York, are as follows: Pressed chestnut and oak, 366 per cent; pressed white wood, 350 per cent; pressed cypress, 330 per cent; pressed white pine, 300 per cent; 4-inch C. I. fitting, 351 per cent; 28-gauge galvanized sheets, 319 per cent; clear maple flooring, 353 per cent; maple oak flooring, 380 per cent; plain oak flooring, 314 per cent; clear quartered oak floor, 263 per cent; tiles, 200 per cent; hardware, 200 per cent; granite, 250 per cent; steel, 200 per cent; radiators, 250 per cent; fittings, 225 per cent; turpentine, 300 per cent; Vermont marble, 200 per cent; slate, 200 per cent; N. C. roofers, 225 per cent; underfloor, 237 per cent; electric lighting fixtures, 125 per cent; electric wiring materials, 125 per cent; trim hardwood, 150 per cent; birch doors, 110 per cent; fir and cypress doors, 100 per cent; sash, 100 per cent; sheet glass, 100 per cent; wire glass, 150 per cent; boilers, 160 per cent; pipe, 140 per cent; excavation, 100 per cent; enamel sink, 187 per cent; enamel bath, 193 per cent; enamel basin, 194 per cent; lead, 138 per cent; varnish, 114 per cent; Tennessee marble, 175 per cent; Italian marble, 125 per cent; cold rolled copper, 100 per cent; soft sheet copper, 100 per cent; wire glass, sized, 191 per cent, and ribbed glass, 181 per cent.

The percentages of wage increase in the various trades of the building industry in New York in 1920 over 1914 rates are as follows:

Auto truck drivers, 60 per cent; bricklayers, 66 per cent; bricklayers' laborers, 133 per cent; bluestone cutters, 100 per cent; bluestone laborers, 108 per cent; bluestone yardmen, 177 per cent; carpenters, 80 per cent; carpenters' laborers, 300 per cent; cement finishers, 80 per cent; cement laborers, 100 per cent; electricians, 87 per cent; electricians' helpers, 150 per cent; elevator constructors, 40 per cent; freestone cutters, 63 per cent; freestone planers, 77 per cent; freestone sawmen, 92 per cent; freestone laborers, 108 per cent; freestone setters, 66 per cent; freestone derrickmen, 100 per cent; freestone carvers, 54 per cent; granite cutters, 100 per cent; granite laborers, 108 per cent; iron workers, 80 per cent; ironworkers' helpers, 128 per cent; marble cutters and setters, 63 per cent; marble carvers, 66 per cent; marble polishers, 89 per cent; marble cutters' helpers, 100 per cent; metal lathers, 82 per cent; plasterers, 66 per cent; plasterers' laborers, 133 per cent; painters, 80 per cent; plumbers, 80 per cent; plumbers' laborers, 300 per cent; roofers, 80 per cent; roofers' helpers, 150 per cent; stonemasons, 100 per cent; steamfitters, 63 per cent; steamfitters' helpers, 133 per cent; sheet metal workers, 80 per cent; tile setters, 50 per cent; tile setters' helpers, 100 per cent, and team drivers, 66 per cent.

With such increases in the prices of all supplies and rates of wages entering into building construction, it is hardly possible that any great reduction in building costs can be secured in the near future, even if the financial situation, and lack of transportation had not caused a further halt of building. A warning has been issued against delay in building by George M. Seglin, expert estimator for the Department of Architecture of the State of New York, who declares that prices will probably not drop for a decade. No possible drop, he says, in building prices can be looked for until the shortage of building during the war has been overcome, and the longer building is put off the more acute will the demand be and the higher prices will go.

Mr. Seglin has no faith in the views expressed by some that a possible break in the high cost of building is in sight. His reasons for taking this position are based on the following:

"With the depression in the building field just prior to our entrance into the war, and the Government's discouragement of private construction during the conflict so as to make possible its own intensive building program, the country is now just about 200 per cent behind the normal in the production of permanent construction.

"If this nation made a superhuman effort and doubled its production each year, it would take four years to overcome this shortage. We have just enough of a supply on hand to take care of our increased population. But this does not mean that the property owner would have to cut his legitimate profits to rent his property, for it is only when an oversupply is reached that the law of supply and demand steps in and causes a drop in prices.

"But this ideal condition of production is absolutely impossible, due to a number of reasons. For one thing, we find that the various State, municipal and commercial needs will demand a big proportion of the available construction, leaving very little for home construction. In fact, this need is so urgent that it is questionable whether there will be possible for some time to come any surplus home construction. While the most optimistic view would place the return to normal at four years, the actual return will probably be nearer to six or seven years. By normal I mean a sufficient supply to take care of the demand comfortably and a production ample to provide for the average increase.

"The signing of the armistice found the material marts stripped of all stock and the production of the material plants cut to a fraction of their former capacity. With the removal of wartime restriction, these factories had to begin readjusting themselves. Now they have to face competition with other industries for the necessary raw materials and a shortage of man-power. In the face of these conditions it will be six or seven years before the building-material market can hope to begin the accumulation of a surplus, and then, and only then, will there be a recession in prices. Moreover, this recession will be gradual, as the surplus can only be acquired over a period of years. In other words, I do not think we can see a real drop in price for at least eight or ten years.

"And even if we had the material, where could we get the labor with which to install it? The emigration of vast numbers of foreign-born workers and the practical stoppage of immigration has created a decided shortage of unskilled labor, while the need for the skilled variety becomes more pressing every day."

HAS SEEN BOLSHIEVISM IN EUROPE.

RETURNING from a study of European conditions, Mr. Walter M. Wellepp, manager of the bond and foreign exchange department of a Baltimore banking firm, gives a warning to this country in regard to Bolshevism when, in an interview in the Baltimore Star, he says:

"It is entirely possible for Bolsheviks to overturn this country if we give them a chance, and I say emphatically that I am in favor of shooting outright and forthwith everyone that lands here, otherwise we shall certainly have trouble. People on this side have no idea of the open-handed manner in which anarchy is preached abroad, and the only way to prevent it here is to nip it in the bud."

Mr. Wellepp fails to recognize that doctrines such as he is preaching are very unpopular down in Washington, and that the Labor Department is apparently doing its best to toady

to Bolsheviks and to encourage them in their activities. Perchance Mr. Wellepp does not know also that in the city of Baltimore there are men who are preaching doctrines subversive of this Government and some who are suggesting the overthrow of the American Republic. A leading public official in this city recently stated that he saw no reason why people should not be permitted to urge the overthrow of this Government if they so desired. This Government, said he, was created by a revolution, and if people living in America wanted to bring on another revolution and establish another form of Government, he did not see any reason why they should not be permitted to do so. And that spirit seems to be very considerably abroad in the land, fattening Bolshevik activities to the utmost extent.

A CRITICAL MOMENT FOR MEXICO.

WHEN the revolution against Carranza was proclaimed, and the flight of the old dictator indicated that his regime was done, we ventured to warn the new aspirants to power that they must recognize the manly qualities in Francisco Villa, and come to terms with him, or their government would presently feel the effect of his persistent hostility, which in the end might prove their undoing. This argument was the natural conclusion from long observation of Mexican affairs. It is perfectly clear to every well-informed man that Villa is not a bandit within the meaning of that word in the English language. He is a political leader who strives to attain his ends in mediaeval fashion at the head of a body of troops whose persuasive eloquence lies in their arms. We do not hold up the method for emulation in a country that has found out how to govern itself and to express the will of the majority through the free exercise of the suffrage, but we recognize that Anglo-Saxon political evolution also passed through a stormy period when private right was not peaceably obtained. Until Mexico has progressed beyond this revolutionary stage of her development we are not disposed to call a Mexican politician a bandit because he displays the courage of his convictions and risks being shot in battle or hung infamously as a solemn warning beside the highway if he is captured. Porfirio Diaz was a "bandit," according to his enemies, until he established his authority.

Villa has shown that he is big enough and broad-minded enough to harbor no resentment against individual Americans because the American Government repudiated him after having invited him to a conference of chieftains, and thereby precipitated his downfall from a position of commanding importance. Even our State Department had to admit the fact several weeks ago that an American captured by Villa bands was in no danger, and would speedily be set at liberty without ransom, and this confidence was justified by what followed.

Villa is as much a political figure as Obregon or de la Huerta, and being such it was necessary for them, as sponsors for the welfare of their country, to lay aside their prejudices and come to terms with the master of Chihuahua. An armistice has now been declared between the provisional government and the chieftain of the north. He knows that he can pacify the section of the country that he dominates; he has offered to do it, demanding that he be made divisional commander, and be allowed full civil and military control of a certain limited area, and be permitted to retain his personal bodyguard of 500 men. It sounds a bit like the Middle Ages, but in reality the Mexicans are just emerging from the era of petty barons and feudal estates. It is men like Villa who are able to pull them out of it. Porfirio Diaz employed chieftains of that stripe to do such work for him, and by 1910 Mexico was literally a safer country to travel in than the United States. It will not be made safe by the ballot until some of the necessary rough cleaning has again been done by

men like Villa, who know how and who have the courage to do it. For work like that the academician and the sentimental reformer are failures.

For the sake of the enormous moral and sobering effect that will be produced by an alliance between Obregon and Villa, we hope that the government at Mexico City will take a broad and constructive view and accept the terms proposed. They cannot afford to be less ready to forgive past differences than the spectacular leader of Chihuahua.

The result will be to snuff out the petty uprisings that now create alarm, and which Senor Fernando Iglesias Calderon, the Mexican diplomatic agent to Washington, had to explain to the State Department officials the other day. The American Administration, that so long and so inexplicably sustained Carranza despite his persistent harassment of our citizens and their interests, has been forced to admit that the new regime, headed by Obregon and Calles and de la Huerta, is the most capable and the most satisfactory since the downfall of Porfirio Diaz. We predicted that they would establish a strong, rational and liberal government, because we recognized that they represented the best men in the country. It was logical to assume that they would conduct a high-toned, self-respecting administration. We urged that the government which they organized be accorded recognition without quibbling as soon as guarantees were given that they would respect the treaty obligations of Mexico toward this country. They have given assurances of this, and recognition will soon follow. They have clearly affirmed that no retroactive application of Carranza's confiscatory measures against the oil companies will be tolerated.

By affirming such guarantees and by receiving our recognition, and by embracing the opportunity for internal peace offered by Villa, Mexico should start firmly and cheerfully on the road to civic stability and industrial prosperity.

GENERAL GORGAS.

THE epaulets of honor were not denied General Gorgas while he lived; dead, nothing can take from him the gratitude of the nation and the world that he served.

Perhaps the greatest of all sanitarians, his genius was permitted to clear the ground for the colossal memorial which everlastingly will link his name to those of Goethals and Gaillard as geniuses who linked the Atlantic and the Pacific and changed thereby the currents of human progress.

It is not possible always to compute in dollars and cents, our measurements of value, the service of a man. None can tell, for instance, even within millions, what merchants in the South have saved by avoidance of the yellow fever risk which formerly was added to their bills. And places that shuddered under the threat of scourge now flaunt their freedom. Be it in life or treasure, therefore, that this man's contribution to humanity be assessed, the worth of it is limitless and cannot be measured.

So long as this nation has men who served as he served, so long as we have men content patiently to win their triumphs in the arena of altruism, taking their pay in the consciousness of good done, without thought of the brass bands, none need despair of the Republic. Better than riches and than applause is the accomplishment of such a task as General Gorgas achieved. He needs no monument, for the imperishable record of what he did is engraved on the breast of earth, but a grateful nation might, with satisfaction to itself, establish permanent memorials of him in the form of medical scholarships in our universities.

The people honor themselves when they honor the memory of a man who did what he did.

GOOD NEWS.

MR. B. C. BIGGERSTAFF of the Daily Drovers Telegram of Kansas City, Mo., in a letter to the MANUFACTURERS RECORD writes:

"Conditions are getting much better out here, rain, hot weather, better prices for livestock, cars coming more freely and labor situation greatly relaxed."

ORGANIZING COMPANIES IN FLORIDA AND TEXAS TO BUILD PULP MILLS FOR PROPOSED MANUFACTURE OF PAPER FROM SAW GRASS AND COTTON LINTERS.

MANY attempts have been made in the past to manufacture on a commercial scale paper from various products. Seriousness of the newsprint paper situation and the high cost of paper is focusing the attention of inventors to redouble their efforts toward finding suitable raw material or materials and developing processes for making paper. The latest announcement along this line is the organization of two companies, one in Florida to manufacture paper from the native saw grass and one in Texas to make paper from cotton linters.

The Leesburg (Fla.) Commercial states that E. R. Lacey, after four years of experimenting, has succeeded in making better newsprint paper from the native Florida saw grass than has been made during the past years from spruce logs. So firmly convinced of success are the men who have been working on the project that a company is being organized under the name of the Grass Fiber Pulp & Paper Corp., and the promoters are planning to establish the initial saw grass pulp mill in Florida within four months and to build altogether 10 mills in various parts of the State. There are millions of acres of saw grass in Florida, and it is reported that the company has enough raw material under its control to run many mills the size of the 10 contemplated.

Gilbert D. Leach, editor of the Commercial and president of the Florida Press Association, Leesburg, Fla., who has been active in the development of the new company, writes the MANUFACTURERS RECORD that the practicability of the process for converting saw grass into paper is best answered by the statement that the final working out of it was done by E. R. Logan, a well-known big paper mill man.

J. Y. Webb and associates of Dallas, Tex., are reported to be promoting the organization of a company with a proposed capitalization of \$1,000,000 to be known as the Trinity Paper Mills. It is planned to build paper mills at Dallas for the manufacture of paper from cotton linters and have them ready for operation in 10 months, producing 20 tons of paper a day at the start.

Procter & Gamble have a pulp paper mill at Atlanta and a similar plant is being erected at Memphis for the manufacture of paper from cottonseed hull fiber. Possibilities for making paper out of cotton linters were discovered after the war, when the cottonseed oil interests sought a new market for the enlarged linters industry created by the demand for munitions. It is said that second-cut linters can be purchased more cheaply than wood pulp and the paper can be made more cheaply. It is also claimed that the cost of handling the linters is less than that of handling wood. Promoters of the paper mills say that cotton oil interests are anxious to continue removing a high proportion of the lint if they can sell it, as a higher grade of oil, meal and cake is made.

The MANUFACTURERS RECORD hopes that all that has been anticipated will be realized by the promoters, for the success of their undertaking will mean a great asset to the country

and be of inestimable value to newspaper and paper consumers. Utilization of two waste products, saw grass and linters, in the manufacture of paper will open a new source of wealth to the South and result in conserving the rapidly declining spruce supply.

MOTION-PICTURE BUSINESS DEVELOPED BY PROHIBITION.

THE London Evening News recently sent a special correspondent to the United States to study conditions over here and with some special reference to the effect of prohibition upon American business conditions. In the course of one of his letters on the subject he quotes a New York lawyer as saying: "England will have to go dry or go under."

While investigating the subject in New York he lunched with three men reported to be multimillionaires largely interested in the motion-picture industry. In discussing the prohibition question one of these men said:

"Prohibition has increased the attendance at the motion-picture theaters by 50 per cent, and if by any chance America were to go wet again, the motion-picture theaters and their millions of patrons would run a dry campaign that would astonish even America."

That is a phase of the prohibition interests which has not been widely discussed in this country. But if men are no longer to spend their evenings in drunken brawls in saloons it is only natural that they will spend their time with their families in such places of amusement as motion-picture theaters, attendance at which costs infinitely less than drinking and in the enjoyment of which their wives and children can share; whereas in the saloon business the wives and children were eliminated, and the money which ought to have gone to their support went into the maws of the merciless saloon. The saloons were the eternal curse of the lives of the women and children whose husbands and fathers were drinking men.

Another one of these millionaires at the luncheon said that "never again would American women permit America to go wet. It is dry, and they intend to keep it so, for the coming of prohibition has meant for women the dawning of a new life." And yet there are some men in America, even some who profess to be Christians, who profess to love womanhood and childhood, who are doing all in their power to discredit prohibition and to bring back upon the country the liquor traffic, with all of its evils, its enslavement of womanhood and childhood and its destruction of manhood for this life and the life beyond.

This country annually spent for strong drink about two and a half billion dollars or more. It not only wasted this vast sum of money, but with that money it bought sin and crime and drunkenness and all the evils which have followed the liquor traffic in private and public life, and the curse of the saloon control over politics.

The two and a half billions which formerly went to the saloonkeepers now go to shoe stores and hat stores, to dry goods stores and grocery stores, and into the purchase of homes, and to other purposes which make for the welfare of the family.

Surely the men who for their own personal gratification would bring the liquor traffic back into the country, if they love honor and righteousness and cleanliness of lives, and morality, will never for one moment, if they will stop to study the matter, favor the return of the liquor traffic, but, on the other hand, will gladly join in every good work that will banish it from all the world.

If the League of Nations could do all that its most ardent advocates claims for it, it could not accomplish for the world as much good as would be the banishment of the liquor traffic from the world.

Strong Protest Against Open-Top Car Order Made at I. C. C. Hearing

[Special Correspondence Manufacturers Record.]

Washington, July 12.

The hearing before the Interstate Commerce Commission, granted on the petition of the National Association of Sand and Gravel Producers, in protest against the open-top car order, resolved itself into a general protest on the part of many industries against the program of turning virtually all the open-top equipment of the nation over to the coal industry.

The strongest presentations were made by the construction interests and the steel trade, which has been seriously interfered with.

Previous to the hearing there was a meeting held at the New Willard Hotel on Wednesday night, when approximately 100 representatives of industries threatened with ruin as a result of the commission's policy conferred as to the best method of obtaining relief.

E. Guy Sutton, business manager of the National Association of Sand and Gravel Producers, whose talk represented the consensus of opinion of those present, outlined the situation as follows:

1. The transportation facilities of the country are not equal to the transportation demands.

2. Labor difficulties, inefficient management on the part of railroad executives and operating officials, augmented by the old competitive strife between railroads, have rendered it impossible to get anything like full value from the available equipment and terminals.

3. There is a scarcity of coal in some districts, particularly the Northwestern and New England States.

4. The coal operators have built up a profitable export trade, and are apparently determined to maintain it, even if many of the industries of this country must suffer ruin.

5. Whenever a shortage of any commodity exists, there is a tendency on the part of selfish interests to gain control of that commodity for the purposes of profiteering. The transportation commodity has been "cornered" by the coal operators.

6. The Esch-Cummins bill, irrespective of the presumable intent and desire of its authors and supporters to enact a constructive piece of railway legislation, is paternalistic in its nature and hence contrary to the sound principles of equity and justice upon which our American institutions are founded. By its provisions railroad investments are made safe, while the shipping public are required to pay exorbitant freight rates and at the same time must endure intolerable service.

7. Under the emergency clause of the Transportation Act, 1920, the members of the Interstate Commerce Commission are given unheard-of authority in the annals of a democratic Government such as ours. They may create an emergency at will and to their own liking, for their powers in this respect are undefined and unlimited. They may, therefore, without restraint, dictate and govern the industrial affairs of the nation, and, worst of all, they are now exerting that control, unhampered by the principle of non-discrimination as between shippers or commodities which has been the righteous strength of our former railroad regulatory laws.

8. The Interstate Commerce Commission as originally established was largely a judiciary body so far as transportation matters were concerned. It is now clothed with judicial, legislative and administrative powers. Its members were not selected with a view that they would ever operate the railroads.

In order to bring about improvement in transportation service both for the present and in the future, the following procedure is recommended:

1. To gain temporary relief, the Interstate Commerce Commission must be made to realize at once the fallacy of following the plan which they are pursuing, whereby they are endeavoring to cure one situation by creating conditions of more serious import.

It must be demonstrated that priorities are fundamentally

wrong, and cannot accomplish the desired end, especially if unaided by direction of distribution of the commodity that is given preference. If, for any reason coal must be given first place, then a Fuel Administrator should be appointed to exercise control over price and distribution, including the curtailment or discontinuance of exportation of this commodity, otherwise exploitation of the public is sure to follow, as the present situation clearly shows.

2. To secure permanent relief, steps must be taken to re-establish now and for all time, by court proceedings if necessary, the just and economically sound principle that all shippers are entitled to their proportionate share of available transportation facilities; and that this right shall not be denied or violated, except in time of war or other actual and well-defined national calamity.

3. Congress must be prevailed upon to take from the Interstate Commerce Commission, and withhold from any other body, power that will permit the absolute control of American business or the granting of special privilege to one branch of industry to the detriment of another.

4. Congress must be induced to make it mandatory for the railroads to purchase needed equipment and to improve their terminal and road facilities, and adequate financial assistance should be given for such purpose. The railroad labor situation must be handled justly, but in a manner to prevent obstruction to traffic.

5. In order that the foregoing undertakings may be the more successful, it is essential that wide publicity be given to the merits of our contentions, for at present the public at large is not aware of the disaster that is pending because of the manner in which our transportation difficulties are being handled.

It was understood that if the interests involved failed to secure relief from the commission, they would appeal to the courts, but only as a last resort.

The official hearing was marked by the appearance of Mr. Daniel Willard on behalf of the railroads, but it was noted that he confined himself almost entirely to a recital of the difficulties in which the roads found themselves as a result of shortage of equipment and strikes. He urged active and sympathetic co-operation between the shippers and the railroads, explained that it was hoped to get some relief by increasing the mileage, and only touched on the priority situation as follows: "I believe that for a time it will be necessary for the Interstate Commerce Commission in the exercise of the emergency authority given it under the act to order priority of service in favor of certain commodities. **I do not think it will be necessary to wholly curtail the movement of any particular kind of business.** I do think it will be necessary for a time, however, to give preference to certain particular kinds of business more important than others from the public standpoint."

This was taken to mean that the railroads are not in sympathy with the drastic order on open-top cars, which did absolutely curtail the movement of particular kinds of business. It was taken to foreshadow a new policy, which would give to all essential industries at least some transportation facilities.

George H. Cushing, general manager of the American Wholesale Coal Association, emphatically denied that there is a coal shortage; declared that a fuel panic had deliberately been created; charged that current production exceeds present needs, and added that, although the railroads are in the worst condition in their history, "we are eight weeks ahead of our schedule in the production of coal."

Public utility representatives urged an even more drastic order to save the gas-producing companies.

Lemuel F. Owen, for the Chicago Building Material Exchange, maintained that in Chicago alone there was a shortage of 100,000 houses, and that in many cases five families were living under one roof. He asserted that thousands of building trade employees had been thrown out of work, and declared that open-top cars

were being used for storage purposes. "We do not consider sending coal abroad as essential to this country's interest as the building of homes, hospitals, schools, roads and factories, and we do not understand how the commission could allow shortage of equipment to occur when the benefit was derived by a foreign nation."

The Portland cement interests presented a strong argument, showing how ruinous the order was to construction interests generally.

Representatives of the steel and iron trade carried on the bombardment, showing an apparently inexcusable congestion at the steel centers, and declaring that a general shutdown would follow unless quick relief were given.

Several of the States were represented, and it was shown that highway machinery to the value of millions of dollars was lying idle; that contractors were refusing to make contracts, and that such as did make contracts were finding it difficult to secure credit or proper bonds as a result of the commission's order.

It was brought out that there is a serious coal shortage in the Northwest; that Lake shipments are far behind schedule, and

that the New England situation is somewhat desperate. The Cushing statement, that there is no coal famine, was vigorously questioned by that part of the coal industry not represented in the American Wholesale Coal Association. Commissioner Clark read a letter from a coal producer to a consumer, in which the producer stated that, while he would not deliver coal under the existing contract, he would undertake to make immediate deliveries at higher than contract price. It was suggested that the consumer in such cases should sue, but it was pointed out that a suit would not put coal in the bins.

The general impression got from the hearings was that Order No. 7 had been issued without sufficient consideration, and had been too drastic. Representatives of the industries discriminated against seemed to feel that they could look for relief of some sort in the near future, but that preference would continue to be given coal, though not to such an extent as formerly. The disposition of the aggrieved industries, however, is to look for a cure rather than a palliative, and they do not think this will be achieved until the fundamental principle is established that priorities of any sort are vicious and should not be resorted to except in time of war or in periods of grave national danger.

More Protests Against Breakdown in Building Operations by Interstate Commission and Federal Reserve Board

EFFECTS OF EMBARGO ON BUILDING MATERIALS AND RESTRICTION OF CREDITS FURTHER DISCUSSED BY OUR READERS.

Needs of the Public as a Whole Should Be Given First Consideration.

National Paving Brick Manufacturers' Association.

Cleveland, O., July 9.

Editor Manufacturers Record:

Your editorial in the issue of the MANUFACTURERS RECORD of June 24 leaves little for us to add except by way of endorsement of your position.

It seems to me that consideration of priorities has somehow got into a reverse order. We hear priorities mentioned according to the needs of certain industries rather than upon the grounds of the needs of the public. No one, I think, will deny that people first must be fed, communities must be kept lighted, hospitals and other public institutions must be kept warm and the railroads themselves must be kept moving as well as inland shipping.

If car service cannot be furnished to an extent compatible with the public safety to supply these public needs without preferential railroad service, then there may be some justification for reasonable priorities during such time as deficiencies are being made up in the above activities. But when it comes to transportation for industries, then it seems to me that no one industry has a superior call over another, and that the matter of transportation can only be fairly adjusted when all available car service is distributed equitably between all industries; or, to phrase it another way, that all industries shall have an equal opportunity to secure whatever transportation is available at a given moment.

Beyond the urgency of public necessity in the matter of daily life there seems to be no call for any attempt to operate our railroads on any other basis than that of common carriers, whose service is supposed to be equally available to all the people. There is no question that the present shortage of car service is striking vitally at the welfare of American business and constitutes its most serious immediate menace.

It seems about time, however, that we stop thinking in terms solely of railroad transportation and highway transportation and begin to consider the solution of transportation, spelled with a capital "T". The agencies of moving commodities of the people must presently be co-ordinated, so that each may render its best service without destructive competition, or the thought of destructive competition one with another, in order that the needs of the country for greatly increased transportation capacity may soon be realized. If this means that short-haul freight should be handled

in motor trucks over the highways as a measure of public welfare, then let us as soon as possible do two things:

- (1) Determine where short-haul leaves off and where long-haul begins.
- (2) Build the highways that are necessary to put such a program into effect.

Full fruition of such plans would naturally take several years' time, but if we can substitute action for discussion we shall at least have accomplished the most difficult part of the problem, and that is, getting started.

MAURICE B. GREENOUGH, Secretary.

First Duty of Railroad Executives to Make Available Service Equitable to All.

The Price Sand Co.

Tulsa, Okla., July 8.

Editor Manufacturers Record:

While we who are west of the Mississippi River have perhaps not suffered to the same extent as those east of it in consequence of the orders which suggested your articles, the very fact that there is authority in law for the legal promulgation of such an order as Service Order No. 7 of the Interstate Commerce Commission or Order No. 33 of the Commission on Car Service is at once sufficient to inspire the strongest and most concerted effort that can possibly be put forth by the business world at large to bring about early repeal of such authority.

That the transportation facilities of this country have been outgrown by the commerce of the country is due very largely to the railroads' "public be damned policy," which created a sentiment so strong against them that it was impossible to secure increased revenues at a time when they were needed to enable the transportation facilities to expand and keep pace with other lines of business. But admitting that the service cannot at this time be made adequate for all demands under existing conditions, the first duty of railroad executives is to make the available service equitable to all and of the Interstate Commerce Commission to see that this is done. But if either the railroads or Interstate Commerce Commission are to be permitted to select any certain lines of business and say that they shall have preference over other lines, arbitrarily shutting down one industry to foster another, then our country is certainly in a bad way, and railroads are no longer common carriers. If priority orders could be justified at all, they should be directed towards supplying facilities for moving

building materials, particularly such as enter into the construction of permanent highways, which the country everywhere needs.

Very naturally, but none the less certainly, the railroads will discourage the prosecution of a permanent highway development program, just as they have always sought to prevent the construction of interurban lines; but it is more and more apparent that any increase in the volume of our commerce for a generation to come will have to be handled through the assistance of motor trucks, and for this reason no priority order should be issued that interferes with the country's road program; in fact, the theory of equity towards all, which should prevail in all business dealings, will not justify priority orders, and our Government agencies should not permit them, much less encourage them.

Your editorials are timely and enlightening, and it is to be hoped will have wide publicity and resultant effectiveness.

J. M. CHANDLER, Secretary and Treasurer.

Victims of Discrimination.

Wisconsin Mineral Aggregate Association.

Milwaukee, Wis., July 8.

Editor Manufacturers Record:

I have before me a copy of your reprint, pages 1 to 4, inclusive, of the issue of June 24, headed, "Handing All of Nation's Transportation Facilities Over to One Industry an Unspeakably Monstrous Interference With Country's Business."

Have spent considerable time in Washington recently, and have combated in every conceivable manner rank inefficiency and daily discriminations which myself and our members have been able to unearth. While our sand and gravel pits and stone quarries are virtually closed down, we within the last 10 days discovered 30 open-top, drop-bottom Eastern line cars arriving in Milwaukee, loaded with automobiles for points beyond here. In addition, we are finding pig-iron, scrap iron, automobile frames and innumerable other manufactured articles arriving in Milwaukee and being shipped out of here. Every abuse of this nature is being called to the attention of Mr. W. C. Kendall, chairman of the American Railroad Association.

The article mentioned above is one of the best that it has been my fortune to read, and the writer of the same certainly is acquainted with the present conditions as I found them in Washington and as I view them from here.

O. O. HUBBARD, Executive Secretary.

Abolish or Restrict the Power of All Commissions.

Bagdad Land & Lumber Co.

Bagdad, Fla., July 1.

Editor Manufacturers Record:

If all the newspapers, periodicals and magazines could be induced to take this matter up and inform the public of the exact conditions as they exist in Washington today, it would be only a short time before the whole country would get relieved.

The Interstate Commerce Commission and all other commissions and bureaus at Washington should be abolished, or else restricted in their power so that they could do no harm. The Interstate Commerce Commission as it now exists dominates the entire transportation system of the United States. Government direction in any capacity of private capital in legitimate business is wrong, and I do not believe that the transportation systems of this country will ever catch up with the business as long as the Interstate Commerce Commission is allowed to commissionize, penalize, terrorize and demoralize the management of the railroads.

The railroad men of this country are big enough and powerful enough, if let alone, to develop transportation facilities that will adequately handle the commerce of the nation, but I do not believe that any sane man would deliberately put his money into transportation lines today.

I hope the day is not far distant when the business men will put up such a strong fight that all of these various bureaus and commissions will be either abolished entirely or at least curbed, so that we "Americans" can go on and do business and make enough money to pay off the debts of our Government and get back on a sound financial business basis.

W. H. PICKARD, Manager.

Coal Car Order Paralyzes Material Producers.

North Carolina Geological and Economic Survey.

Chapel Hill, N. C., July 2.

Editor Manufacturers Record:

I have been very much interested in reading the MANUFACTURERS RECORD and its fight against the activities of the Federal Reserve Board and the Interstate Commerce Commission, more particularly the latter. I have been in correspondence with the producers of our structural materials trying to see if there is not some way we could increase the production so as to make it possible to supply the demand for crushed stone to be used for concrete, both in buildings and highways. I find that two factors are standing in the way of these producers increasing their production, which they all wish to do, i. e. (1) lack of cars for transportation of the crushed stone, and (2) lack of labor. The first obstacle has now become so acute since the passage by the Interstate Commerce Commission of the regulation relating to the use of open cars that several of our crushing plants in North Carolina have been obliged to shut down completely, as they cannot ship any crushed stone.

One of our large contractors had a concrete bridge nearly completed—all he needed was one more load of crushed stone—when, without practically any warning, the Interstate Commerce Commission put into effect the regulation referred to and it has been impossible for him to get that one car of stone.

One of our producers from Rowan county writes: "A recent order of the Interstate Commerce Commission has practically closed down all our plants."

The largest stone producer in North Carolina writes: "We are still further limited in our production by the lack of cars to ship the stone in. This has been one of our worst troubles."

The above illustrates the condition of the crushed-stone industry in North Carolina. While it is necessary that coal be transported for industrial work and for heating purposes, and that open cars should be supplied for this purpose, is it necessary that thousands of cars should be supplied to haul coal for export purposes at the expense of our home industries? I believe that if an embargo were put on the exportation of coal until our home industries were supplied the shortage of cars would be very much relieved and other industries, such as construction of concrete buildings, bridges, and the construction of highways, would not come practically to a standstill.

JOSEPH HYDE PRATT.

Strangling One Industry for Sake of Another Is Preposterous.

The Marion Steam Shovel Co.

Marion, O., July 7.

Editor Manufacturers Record:

We build machinery for use in grading roads and streets, and also for the stripping and loading of coal. Our interest is in both industries, and we recognize in them two highly essential lines of business that should be maintained without prejudice to one another. The idea of strangling one important industry for the sake of another is preposterous, and further, it is unnecessary.

It is with extreme regret that we have learned of the action of the Car Service Commission in restricting the use of open-top equipment. The working season of the road contractor is extremely limited, even under normal conditions, and if this is reduced to the extent of 30 or 60 days it will impose losses impossible of recovery.

We commend you on your position and admire your attitude of fairness to both industries.

FRANK A. HUBER,
President and Treasurer.

Colossal Ignorance.

Atlanta, Ga., July 6.

Editor Manufacturers Record:

The most charitable view that can be taken of Order No. 7 is that it was promulgated through ignorance, and ignorance of such colossal proportions is a crime.

BIRMINGHAM SLAG CO.,

By S. G. REYNOLDS, Atlanta Branch Manager.

Public Indifference Primarily Responsible for Plight of Railroads.

Northern Pacific Railway Co., Office of the Chairman.

New York, N. Y., July 8.

Editor Manufacturers Record:

I have read with interest your two editorials, "Where There Is No Vision the People Perish," published June 10, and the other, "To Save Ourselves, We Must Save the Railroads," published June 29. There is much of sound truth in them.

I think the majority of railroad managers appreciate their position of trusteeship and are doing everything they can to act along broad, sane and courageous lines. The public, however, have only awakened to the seriousness of the situation within the last year, and we are apt to have some difficult times before the railroad transportation machine is brought back to that relation to the country and its productive activities that ought to have been maintained steadily during the last 15 years.

Some of us, myself among the number, have spent a great deal of time and energy ever since about 1907 pointing out the dangers, but until the danger came right up to us it was hard to make the country realize it.

HOWARD ELLIOTT.

Only Luxuries Should Be Discriminated Against.

The Globe Automatic Sprinkler Co.

Philadelphia, Pa., July 8.

Editor Manufacturers Record:

The editorial appearing in the MANUFACTURERS RECORD of June 25 is very good, and it brings out several interesting points, but at the same time we will have to admit that there is an acute car shortage prevailing, due to uneven distribution of the available box and open-top cars.

The order which was issued by the Interstate Commerce Commission concerning the distribution of available open-top cars for shipments of coal into various territories, and particularly New England, where an acute shortage exists at this time, we believe to be the only and best means available to keep manufacturing concerns going instead of compelling them to shut down, which they would have to do if they could not secure the proper coal.

As an illustration, our own city water-works is threatened with a shutdown unless they can secure immediate shipments of coal. You can realize what a hardship such conditions will create.

We are firmly convinced that priorities, especially in times such as we are going through, should exist just the same as they did exist during the war period. The classes of priorities should be based upon the necessity of the commodity which is shipped, and such articles as automobiles, talking machines and similar articles which are termed a luxury should only be shipped when the present car supply is increased.

Some of the articles which should be moved forward promptly are materials for the continuation of building construction and road building, as we quite agree with the editor of the article hereinbefore mentioned that it is necessary for us to continue the construction of good roads, so that the motor trucks, which have proved during the war to be such a factor in the movement of materials, can be again utilized to assist the railroads in handling the vast amount of freight which is lying at all points of the compass in this country unshipped.

General priorities as illustrated by the order of the Interstate Commerce Commission of shipment of coal should not be permitted under any condition, as we are heartily in accord with the editor's opinion that general priorities work a hardship upon manufacturers whose products are just as important in some cases as the commodities which have been favored with assistance in the securing of cars, etc.

The fundamental reason for the present tie-up of freight cars is the industrial labor troubles, such as the longshoremen's strike in New York, Philadelphia and Baltimore, which has been the means of holding up hundreds and hundreds of cars at our terminals which cannot be loaded out because of the absence of the necessary labor.

During the railroad strike there was also a congestion of freight at the various junction points, and, in fact, in the steel-producing centers they had a congestion of about 33½ per cent more cars

than there ever was previously located at that particular junction point.

We find further that shippers are taking a longer period to unload the cars, and in some cases shippers are using the cars as storage space and paying demurrage on the cars rather than unload the same and possibly erect a temporary shed for the holding of this freight.

One of the most important features that should be brought before all of the business men today is to have their traffic department arrange to unload such cars as are placed on their siding within 24 hours at the outside, and before, if possible, because by so doing they will not only be helping themselves, but also helping others.

Arrangements should also be made to have the longshoremen's strike settled or the cars unloaded and placed in terminal warehouses at points adjacent to ship's side, and the cars which are now held up open for use and distribution to other manufacturers who can use the same to good advantage.

W. F. RITZ, Assistant General Manager.

Attempt to Establish Priorities Declared Impracticable

National Automobile Chamber of Commerce, Inc.

New York, N. Y., July 8.

Editor Manufacturers Record:

The question of listing industries as to priority for freight service is undoubtedly of very great importance, and it is our understanding that the officials at Washington are disinclined to attempt it.

The recent Service Order No. 7 is, I believe, based on public interest; to what extent this is the fact, to be sure, rests with the Interstate Commerce Commission.

According to figures given out, some 30,000,000 tons of coal are required at the Lake ports during the season for the Northwest, and to accomplish this movement there should have been 6,500,000 tons at the ports by this time, whereas there are only 2,500,000 tons.

In general, however, outside of public interest, any attempt to establish priorities would seem bound to meet so many complications as to render it impracticable.

J. S. MARVIN,
General Traffic Manager.

Carrying Empty Cars Westward Hundreds of Miles When Freight for West Was Available.

Warren, Ark., July 1.

Editor Manufacturers Record:

We can only substantiate your statement that the regulations as they now stand in railroad transportation have practically paralyzed some lines of business. All told, we employ about 750 men in the manufacture of lumber, 250 of whom are connected with the shipping department. For the past three weeks we have been operating our shipping department only two or three days per week, having to lay off 150 to 200 men the balance of the time because the railroads could not under their orders furnish us empty cars into which to load our lumber. Two trunk-line railroads run into our town, and recently they have taken out from three to eight empty cars per day, hauling them 600 or 700 miles for the purpose of loading grain on orders from the Interstate Commerce Commission. We could have loaded the same empty cars with lumber going to the same territory where the grain is being loaded. The American people are clamoring for homes and shelter, and statistics show that 3,000,000 homes are needed to house our people. It is a well-known fact that a large amount of grain hauled is for feeding cattle and hogs. In other words, there are more efforts being made by some higher authorities to see that the hogs are fattened and cared for than that the human beings are housed and sheltered.

There is no doubt that if this system is continued it will paralyze our business unless some strong influence is brought to bear which will bring about a more equal distribution of cars. In our opinion, the railroads must have higher rates in order that they may obtain more equipment if commerce and industry in this country are to move forward and not become stagnated.

SOUTHERN LUMBER CO.,

O. O. AXLEY, Manager.

Cowardly Surrender to Organized Labor Largely Responsible for Present Predicament.

Northern Hemlock and Hardwood Manufacturers' Association,
Office of the Bureau of Transportation and Legislation.

Oshkosh, Wis., July 7.

Editor Manufacturers Record:

The transportation situation is lamentable and inconceivable, almost. Any comment in regard to it compels thought as to the cause of the inability of the railroads to care for the needs of the people in the United States.

In my judgment, all of our trouble today dates back to the assumption on the part of the National and State governments to actually control the fixing of rates and to the cowardly surrender that has time and again been made to organized railroad labor.

Had the law remained as it once was, that rates must not be discriminatory and should be reasonable and a determination of what is reasonable and discriminatory or not left to the courts, the railroads would have gone on earning on the average as big returns as they had in the past and this country would have had good railroad service and facilities, for expenses would have been furnished that have been lacking and dwindling as the years have gone on.

Two outstanding things are lacking today, it is generally understood. One is the lack of power and equipment. The other is lack of terminal facilities. With business in sight and income to provide these two now necessary things, railroad management that has always been farsseeing would have provided both.

The cowardly surrender to organized labor, as to efficiency of service especially, has prevented use of such equipment and such terminals as the railroads now have. The great folly in the management of labor was President Wilson's sandbagging the presidents of the railroads to accept the terms of the Brotherhoods just prior to the Government taking over the railroads.

As we understand it, the present causes of the shortage of coal are, first, the strike in the soft-coal industry, and next, the inefficiency of labor and the outlaw strikes of railroad labor that have tied up equipment of the railroads.

The cold, hard fact is that we have a coal shortage, and we face the question as to who shall suffer because of this shortage and the cause of all the things that have led up to it. I agree with you thoroughly that priorities are vicious, and that whenever the Government assumes the job of carrying on the work that has ordinarily been carried on by private initiative and energy the Government makes an unspeakably bad mess of what they attempt. As I see it, however unfortunate as it is that some people have to suffer by reason of priorities, it is imperative that the industries that you speak for should not be first cared for or should not be cared for alike with coal.

Our members produce a very considerable amount of fuel and buy very little coal. They sell lumber and other building material, and we all want good roads. In spite of that, I believe that our membership generally recognizes that industry and public utilities must be provided with coal and that homes must be heated before we build roads and build homes. We are suffering in our territory, as everyone else in other territories, because our one big supply car is being taken away from us empty to go to the coal fields, and some of our members feel ugly in regard to this, but on the whole I believe our industry recognizes that those who must have coal must be first served.

A. L. OSBORN, Chairman.

Business Generally Depressed by Conditions for Which Others Are Responsible.

Hydraulic Press Brick Co.

St. Louis, Mo., July 8.

Editor Manufacturers Record:

I have just read your editorial of June 24, and fully approve and endorse it. It is a faithful statement of railroad shipping conditions under present control. The Interstate Commerce Commission was originally instituted for the benefit of the shipping public and to curb certain railroad practices. The commission has rapidly been assuming most despotic power, and has not only failed to materially benefit and protect those for whom it was primarily

created, but while it has stopped many bad practices, it has added to the expense of transportation and has not altogether dealt justly with the railroads.

The railway yardman's strike has more seriously tied up traffic than is generally known. Forty per cent would probably represent present terminal efficiency, and the so-called present shortage of equipment is chiefly due not to want of equipment, but to lack of proper movement.

Recently a certain coal mine was idle, as there were no cars to load, when at the time there were nearly 350 loaded cars standing in the mine railroad yards. Production is being greatly contracted to the detriment of all, and business generally is laboring under chaotic conditions for which others are responsible. These preferential orders do not seem more justified than the periodic shunting of empty cars across the country for what is regarded as urgent special needs. Every industry requires coal, but not at prohibitive prices and at the exclusion of everything else.

When it is possible by order to so adversely affect American business it ought to be possible to greatly curtail the export of coal and by eliminating the foreign bidder and freeing the cars in this trade stop the present disgraceful profiteering in fuel.

GEO. A. PASS, President.

Without Transportation Facilities Industry Cannot Even Exist.

The National Pressed Steel Co.

Massillon, O., July 7.

Editor Manufacturers Record:

It is with great interest I have read your article, "Handing All of Nation's Transportation Facilities Over to One Industry an Unspeakably Monstrous Interference With Country's Business," published in your magazine of June 24. I believe your frank and fearless expression of views covering the facts in the premises will do much to check the tendency toward reckless and dangerous handling on the part of the administration of our transportation facilities.

In my opinion, the future development of industry is limited only by the deplorable transportation conditions which we have existing today. The only possible relief will be a keen realization on the part of every individual that without transportation facilities industry cannot expand or even exist.

I congratulate you highly upon the fearless and able manner in which you have treated the subject.

H. M. NOGGLE,

Vice-President and General Manager.

Regards Ample Coal Supplies to Be Essential.

Philadelphia, Pa., July 1.

Editor Manufacturers Record:

The chaos in industry consequent on the failure to receive sufficient coal would be worse than the chaos referred to by Mr. Edmonds as being produced by the transportation priority regulation recently issued by the I. C. C. True, it is only a choice of evils, but of two evils, why not choose the lesser? Coal is as necessary to industry as food to the body. Starve the body, and its members will cease to function. So with industry. Deprive it of sufficient coal, and it will dwindle away.

Industry should receive 60 to 75 per cent of its yearly requirements during the summer and fall months. It has not been receiving current requirements since April last. In some localities the situation is very grave. The manufacturers of Montgomery county, Pennsylvania, have just called upon Governor Sproul to do something to help them.

Of course, the solution is more cars and more railroad equipment, but to secure these takes time, and we have got to do the best with the means at present available. More real work and less playing politics would help some.

The priority regulation is only for a limited period, and is doubtless aimed to correct what is considered a critical condition.

W. H. WATERS, General Sales Manager,

Merchant & Evans Company.

Road Contractors Suffering Great Loss.

St. Louis, Mo., July 3.

Editor Manufacturers Record:

Our business as distributors of construction machinery in Southern Illinois and Eastern Missouri has been seriously interfered with by the freight situation.

We feel the pinch of the traffic situation first by the fact that the factories are almost universally quoting extremely slow deliveries. When the factory quotes 14 to 16 weeks' delivery on a piece of construction equipment, you can imagine our chances of sales to a contractor who has secured a job on which he wants to get action.

These slow-delivery promises by the factory are caused primarily by their inability to get materials and the long delays of these materials in transit. As a result of this situation, we have had to order larger stocks in order to take care of our customers. This is at a time when buying large stocks is a dangerous business, as, of course, it is business suicide to load up with too much stock at the top of the market.

Even after we get our orders in transit, we never know how long it will take to get the actual equipment in stock. We have practically given up the attempt to trace shipments, as it seems impossible to get any real action or information.

The manufacturers we represent, and customers needing shipments, have had to resort to the extremely expensive method of having a man "ride the car." This is the only possible way of getting any definite information. No one dares figure that an immediate shipment will come through in a reasonable time without "riding the car."

Several of our contractor friends have road jobs that they started last year, and, of course, expected to finish up early this year in time to move their equipment to another job. They are now tied up for material on these jobs and facing the prospect of not being able to complete them this year at all.

They took these jobs at prices just about one-half of the present bids on road work, so you can imagine their loss, even if they could get these jobs cleaned up at once.

Many of these roads have been graded and traffic is being diverted over other roundabout roads that are in poor condition. This is certainly a serious situation to face, and one which seems to be ignored.

We commend you on your effort to give publicity to these facts, as throwing a searchlight on the men that are really to blame for the situation is really the only way of accomplishing much.

The American business men are fast getting in a frame of mind that is not very promising for future business expansion.

THE GEO. F. SMITH COMPANY,
Per GEO. F. SMITH.

Further Rental Increases Inevitable as Result of Interference With Construction Work.

National Conference on Concrete House Construction.

Chicago, Ill., July 8.

Editor Manufacturers Record:

Every American citizen has a right to thank you for your splendid, truthful statement of the conditions as they exist and for the unmistakable stand which you are taking in behalf of the construction industry.

So far as this season's housing prospects are concerned, damage has already gone a long way; so far that thousands of houses urgently needed cannot possibly be built this year. This means that we can look forward with perfect assurance to another big increase in rentals in the fall, followed by another in the spring of 1921; no power under Heaven can prevent these increases. They are chargeable directly to those who have striven continually to embarrass the building industry.

The most serious factor for us is the loss of trained men who, once having left the building industry for other lines of occupation which are more steady and pay higher wages, never return to building work. Four years of this process of discouragement have reduced our workmen in the field of residence construction to a very low ebb, probably not more than half and possibly as low as one-third the number at work in 1915.

A. J. R. CURTIS, Secretary.

Fears Free America Is Disappearing.

A. Miller & Sons, Inc., Concrete Gravel.

Clinton, Ind., July 1.

Editor Manufacturers Record:

We endorse every word you have to say as regards transportation, and could add a great deal to it, but perhaps it would not look well in print.

We will say this much, however, that the free America is fast disappearing, and so long as we have the controlling factor of our transportation system in the hands of a few ignorant fellows that we cannot expect much more than what is now taking place, and we fear that they will keep on until they will start something that will not be very easily stopped; at any rate, not so easily as stopping industry.

We have worked very hard for 15 years to get our business built up. All this time we have been improving to keep our business up to date, and have made very little money, but we now have our plant all modern, with plenty of orders, but lying here idle, while Mr. Operator is asking \$6 per ton f. o. b. mine for his coal which we were buying some two months ago for \$2.55.

W. G. MILLER.

All Business Waits on Recovery of Railroads.

Merchant & Evans Company.

Philadelphia, Pa., July 7.

Editor Manufacturers Record:

Our feeling here is that it will be four or five years before the railroads can get up to their job, provided that they are let alone politically, and have adequate rates, and can finance adequately and develop complete team work all over the country, and move ahead just as fast as these new conditions permit to equip and enlarge their plants and organizations to care for the business of the country as it is now done and must continue to be done to continue the prosperity throughout the United States. If any of the above factors are found wanting, the recovery will be just that much slower. Until this recovery of railway transportation, with all the possible supplements of water and highway relief, comes about, the business of the country will be slowed up and hampered in very many respects. Like any other sick or convalescent patient, I therefore believe that control of the situation should be developed and put in force whenever needed, provided they are done by people who know their business and perform it in a fair and unprejudiced manner.

POWELL EVANS, President.

Railroads Must Have Higher Freight Rates.

Longville Lumber Co.

Longville, La., June 30.

Editor Manufacturers Record:

In our opinion, no one has a right to find fault with existing conditions unless they have a substitute condition which they clearly outline and which they suggest should apply in place of the existing condition, thus giving the reader an opportunity for comparison between the two conditions and a chance to use their judgment as to which would be the better.

Beyond question our transportation facilities are inadequate. The roadbeds are not in physical condition; the motive power is not adequate nor in good physical condition; the rolling stock has deteriorated below requirements, and that on hand is not in physical condition, and no one of these three facilities can be remedied or put in physical condition promptly. It will take time, even if they had the money, and the transportation companies haven't got the money, and it is doubtful if they had the money whether they could afford to bid against industries for the mechanics to do the work, except so far as maintenance of way is concerned. We believe it is generally conceded that transportation revenues are inadequate. The first move necessary, therefore, is to increase the revenue (even though they should get it too high) to such an extent as will enable them to put the facilities in good working condition, and a provision might be made to see that the additional funds were applied for this purpose.

It wouldn't matter much if they didn't build any passenger cars, for I believe there is quite enough of that equipment for necessary

travel, but it is entirely useless to produce goods that we cannot deliver to a possible purchaser.

So far as the orders of the Commission on Car Service of the American Railway Association is concerned, they are only doing what any body of men who have responsibility thrust upon them will do, to wit, issue orders which in their opinion will produce the best effect upon all industries, and as we have no knowledge of the information furnished them by which to shape their judgment, we will not criticise until we do.

It is a curious fact that business men throughout the country concede that railroad revenues are inadequate, and yet whenever there is a proposition to raise them to what would be adequate every possible means is used in nine cases out of ten to combat any advances, and there is no way we can get better facilities except by paying for them; no way by which the transportation facilities can be brought up to the actual requirements except by providing a revenue which, properly applied, will provide those facilities and provide for their maintenance and perpetuation.

J. W. MARTIN, General Manager.

State-Wide Movement for the Open Shop in Texas.

Austin, Tex., July 8—[Special.]—It is expected by the promoters of the open-shop movement in Texas that by the end of the present year organizations which have that purpose in view will have been formed in practically every town in the State where laborers in any great numbers are employed. The organizations are reported to be meeting with much success in securing employment for non-union laborers. In Wichita Falls, where a bitter fight was waged by the union labor element against the open-shop movement, many skilled mechanics have been placed upon open-shop jobs. According to a summary issued by the Wichita Falls Open-Shop Association, there are eight large business buildings and many residences being built there under open-shop conditions. The same is true as to Dallas, San Antonio, Beaumont and Vernon.

What the Southwestern Open-Shop Association, which has its principal office in Dallas, will endeavor to have adopted nationally as the open-shop emblem has been chosen by that body, it was announced today by Franklin O. Thompson, manager of the association. The emblem was designed by a Dallas man, and is now being used on letterheads, envelopes and packages by open-shop adherents in Texas, Oklahoma, Arkansas and Louisiana, the boundaries of the association. A copyright has been applied for. Every open-shop printer in Dallas has the emblem, Mr. Thompson said.

The emblem may be used in printing or may be stamped on wooden packages with a blazing iron. It can be used in one or more colors. An eagle surmounts the circular figure with spread wings. "The Open Shop," "Square Deal for All," "Americanism," is the text on the emblem, and shows in the background of the circle a skyline industrial view.

Former Senator Joseph W. Bailey is the only candidate for Governor of Texas who has declared himself in favor of the open shop. In a recent campaign speech Mr. Bailey said that he understood union labor is circulating literature saying to vote for any of the other candidates, but be sure to vote against Bailey. He granted the right of labor to vote as they pleased, but denied their right, as a class, to take control of the Government. He denied that right to any class. If there is to be an eight-hour day, it must be universal. Eight hours for everybody or for nobody.

Saying he was for union labor when it was right and against it when wrong, Mr. Bailey said:

"I warn you farmers that if you allow union labor to punish men who stand for equal rights for you, the time will come when men will not stand for equal rights for you. If you do not defend the men who defend you, the time will come when they will not defend you.

"The closed shop is a boycott against labor itself," he said. "I cannot agree that any American citizen is to be denied the right to make a living for himself and his wife and children because he

does not belong to a labor union or to the Democratic party or to the Presbyterian Church. I deny the right of any organization to proscribe him and turn him out, an outcast from honest employment, because he is not a member of this or that.

"If we are going to have labor unions run the country, in God's name let's have Texas labor unions run Texas and not take orders from old Sam Gompers in Washington."

He added that the people will destroy every labor union in Texas before they will allow the labor unions to destroy the Government. He insisted that he is labor's best friend in giving this warning, and that he is against any class, labor or what not, running the country.

Cement Demand in Texas Far Exceeds Supply.

Austin, Tex., July 7—[Special.]—Many samples of cement and cement materials are being received for the purpose of testing at the laboratory of the Bureau of Economic Geology of the University of Texas. According to G. A. Parkinson, assistant testing engineer of the bureau, enormous quantities of cement are now being used in various lines of construction work in the State. The demand for the product exceeds the supply, and considerable shipments are being received from plants outside of the State. The purpose of the tests which the bureau is making of the samples of cement is to determine whether they come up to the standards required. They are sent in principally by highway engineers and others who are interested in construction work.

An investigation is now being made by a committee appointed by the Legislature at its recent special session of the alleged combination of the cement manufacturers of the State by which, it is asserted, there is an agreement as to prices of the product. Highway construction engineers are aiding in this investigation.

"There is need at this time of an additional large cement manufacturing plant in Texas," Mr. Parkinson said. "There has been some talk that the State should own and operate such a plant under the direction of the State Highway Department. There is undoubtedly a shortage of cement in Texas at this time. It is impossible to obtain the product from abroad, as was the case in pre-war days. It was thought that cement might be obtained from Spain, and that it could be laid down in Galveston at a price which would make its importation advisable. It has been found, however, upon investigation that the prices that would have to be paid for cement in Spain make it impracticable to import the product.

"There are abundant deposits of cement materials in Texas. In the laboratory of the Bureau of Economic Geology samples have been tested and they have proved to be of high grade. In the chemistry division of the bureau a small plant has been installed for the manufacture of cement under the direction of Dr. E. P. Schoch. Samples of material received by the bureau may be tested in the laboratory plant and their content determined."

More concrete highway construction is now in progress and proposed in Texas than ever before known. It is also to be noted that much attention is being given to the building of permanent concrete bridges and culverts. Another source of demand for cement is that of building concrete cattle-dipping vats. Hundreds of these dipping vats must be constructed in order to comply with the law for the eradication of the cattle tick. Many dams for the storage of water for irrigation and municipal supply purposes are also being built of concrete. The use of this material for business and residence building purposes is constantly increasing in Texas, it is stated.

Over \$25,500,000 Bonds for Improvements.

A report from Oklahoma City says that, according to the record of Attorney-General of the State of Oklahoma, bonds aggregating \$23,571,514 were voted and authorized to be sold by Oklahoma school districts, towns, cities and counties during the fiscal year ended June 30, 1920. The aggregate during the fiscal year ended June 30, 1919, was \$10,798,681. More than half of the bonds issued last year were for schools and \$3,600,000 for roads. The aggregate does not include \$5,000,000 bonds voted by the city of Tulsa for a new water supply system on which a decision from the Supreme Court is awaited.

The South Today

[For some years the American Steel & Wire Co. has carried on a very broad campaign looking to the development of the agricultural interests of the whole country, being brought in close touch with the farmers of America by reason of its business operations. Dr. H. E. Horton is the agricultural commissioner of the company, and he has been one of the most farseeing of the agricultural authorities of this country in pointing out during the last few years the seriousness of our food situation.

For some time Dr. Horton has been making a very careful study of Southern agricultural conditions, and at our request has furnished the following article. In sending this he writes:

"I began a careful and systematic study of Southern agricultural conditions in the South the year of the armistice, 1918. I feel like writing a book on what I have learned about the great possibilities of the South."

Dr. Horton's views, based on this study of Southern conditions from the standpoint of a trained, scientific, agricultural expert, are presented in the following article.—Editor Manufacturers Record.]

By DR. H. E. HORTON, Agricultural Commissioner, American Steel & Wire Co., Chicago, Ill.

The South is on the threshold of a great achievement. After two generations following the Civil War those qualities that made the South the leader for 86 years in our early national life are again being asserted. The time has come when the land must be discovered by the rest of the country.

The man seeing the great South from the windows of the swiftly moving train, bound from Washington to Tampa, usually in the winter time, knows next to nothing of the land, but, curiously, he is ever willing to talk authoritatively on all Southern topics.

Some hyperchondriac visits Florida and, overcome by bile, writes in the tone of the grave of the beautiful festoons of Spanish moss hanging from the trees. The dark-colored water in the rivers (dark because of the coloring matter extracted from the trees bordering the stream) gives him a fit, and he never sees the firm, sandy bottom of the stream.

Some news agent sells him a postcard depicting an alligator, and he is ever expecting this reptile to pounce on him from the park shrubbery. Someone has told him of millions of snakes seeking to strike the unwary foot and hand, and in every root he sees a snake. Millions of mosquitoes are seeking to sting him.

He sees the light-colored soil and immediately thinks of sand. He knows the terrific summer heat in New York, in the temperate zone, and he multiplies the reading of the thermometer there by the difference in latitude between New York and Mobile to arrive at the temperature of Mobile.

He goes South and wants to find, and expects to find, and insists on finding, the customs and habits and housing of the Northern city, and is uncomfortable because he does not find them. And he would be very uncomfortable if he did find them.

And he knows men have no pep or lose pep in the tropics. He never gives a thought to the latitude of the great countries of Europe and Asia which have produced world-famous philosophers, famous generals, painters, sculptors, poets.

Everything he sees and much of what he thinks is distorted and far from the truth.

Some Discoveries in a Much-Visited State.

Northern Florida is not tropical. It has distinct changes of seasons. Leaves fall from the trees, grass dies down, nature rests in the winter.

In many instances the railroads have been built through the river bottoms, lowlands, swamps, and from the train windows it is not possible to see the rich agricultural lands. This State possesses some of the finest general-purpose farming lands in the world. Herds of fine cattle roam the hills, for there are hills, and rolling country.

When Florida is mentioned people think of citrus fruit, and never of the staple farm crops, corn, Irish potatoes, sweet potatoes and hay, all of which are produced to perfection. Moreover, on the same field three crops and a "crop" of meat are produced in the same season.

For example, the Irish potato may start the season, to be followed with corn in which velvet beans are seeded at the last cultivation and the corn and velvet beans hogged down. The potato and the corn clean the field, and the velvet bean cleans (by shading) and enriches the soil.

The three principal parts of a crop rotation, the ideal way to produce food, are money crop, cleaning crop, and enriching crop, and in the Irish potato, corn and velvet beans are all these.

Florida is not beginning to go into livestock raising—it is already in the business, and for all it is worth. On the prairie lands of the southern part of the State are scattered herds of cattle drawn from the West where nature has been unfriendly. Great herds of cattle roam the prairie and remind one of Texas and Wyoming.

Hogs.

A man from Micanopy, Fla., won the 1919 prize for the prize Poland China sow in the International at Chicago. A man from Barnesville, Ga., had the Grand Champion Hampshire boar at Chicago in 1918. Hog exhibits of Southern-bred hogs at county and State fairs vie in quality with the best in Western hogdom.

The hog is produced today in the South for less than half the cost for what it is produced in the North. The best blood strains of Ohio, Iowa and Massachusetts, to mention a few States, are to be found on Southern farms.

Sheep.

Indisputable English authority—and there is no better authority on sheep—insists that in the northern counties of Florida is to be found the best country in the world for sheep raising. (Someone bobs up who has read a statement in Darwin's "Origin of Species" that sheep grown in warm countries cease to produce wool and produce hair, and therefore Florida is no place for sheep growing!)

Our own Dr. Dalrymple, director of the Louisiana Agricultural Experiment Station, claims no section of our land offers the inducement for sheep growing that is offered by the South.

Goats.

The raising of goats is already an assured branch of livestock industry. Wallkill Farms, on the St. Johns River, has 4000 head of angoras. On farms everywhere the common goat is now kept.

The Scrub.

No longer is the scrub animal prominent. The undersized scrub bull is a curiosity, and to get one for exhibition purposes it is necessary to go to the backwoods.

A year ago I met with great difficulty in securing the photograph of the old-fashioned razor-back hog. In his place are droves of swine with the best blood strains of Kentucky, Ohio, Illinois, Indiana.

The Man Back of the Livestock Holdings.

People in the North would give the impression that the livestock grower in the South has no end to learn concerning breeding and feeding. In fact, a recent Government document voiced this sentiment.

Contact with the men of both sections will convince one that the breeder in the South is in no way inferior to the breeder in the North, and he is quicker mentally.

No Use to Produce What Cannot Be Sold to Advantage.

Ideal marketing conditions, first of all, mean the steady market, in firm hands, and first-class transportation from the farm to the market.

Roads for motor-trucking north and south, east and west, coupled with unrivaled railroad facilities, solve the transportation problem, and county bond issues for new roads will open up all the country.

Swift & Co. is at Moultrie, Ga.; Armour Company at Jackson-

ville, Fla., and Tifton, Ga., and no one could ask for anything better. Macon, Ga.; Chipley, Fla.; Wilmington, N. C., all have going meat-producing plants.

The Business Men.

A great change has taken place in the business atmosphere and there is pep, business acumen and aggressiveness on every side. The banks are alive to their duties and opportunities and are doing their share in the agricultural development in a way to shame Northern communities.

In the Southeastern Atlantic Seaboard States the owners of large tracts of land have associated themselves in a Landholders' Association to further the interests of their home country, and today these associations are doing splendid service in building up great sections of the South.

The progress of a section in agriculture is quickest and best seen in its county and State fairs. At the fairs the organized work puts forward its best foot. The competing pens of swine and cattle, with the adjoining judging ring, show the actual conditions.

This year the Macon Fair was overrun with pens of hogs—hogpens everywhere overflowing into other exhibits. The exhibits made it perfectly clear Georgia is in the business for keeps.

At Columbia, S. C., the interest in the swine judging was intense, and beyond what is seen in the North. At Jacksonville the exhibits and interest in them left no doubt about the important place swine husbandry will play on Florida farms.

Billy Boll-Weevil.

A person will not travel long in the South before he has some sly remark, "They're going to build a monument to Billy Boll-Weevil over in Alabama."

It is not possible to consider agricultural problems in the South without giving due consideration to the boll-weevil, for the tiny beetle, barely one-tenth of an inch long, is the most powerful working means in the regeneration of the Southland—he is forcing diversified farming on every community from the Rio Grande to Virginia.

The South must continue to produce the bulk of the world's cotton. Cotton has been the curse of the South, but through the agency of the boll-weevil a new conception of a Southern agriculture is in the minds of men, and the position of cotton will be made more secure.

The usual methods used to control insect plagues have failed with the boll-weevil, and there remains only the one way—crop diversification and livestock—and this way is being adopted everywhere.

Cattle Tick.

Given a cattle-tick-free country, with forage crops for all the year, and the South will become the great meat and dairy section of the country.

Public sentiment is for the tick-free country. Of course, there is the small number of men who are "agin" every innovation who are holding out against dipping, but these men will be won over in one way or another.

The day the tick is overcome will see untold millions added to the land values of the South.

The Agricultural College and Experiment Station.

In the North these great institutions have not always been quickly sensitive to the best interests of the farmer. Their conservation has been too great, and they have held themselves so upright they have often fallen over backwards.

The men conducting the work of these great benefactions in the South are not puffed up; they are very human, and they have their ears to the ground and are translating the wishes of the farmer into action.

The County Agent.

The personnel of the county agent body in the South is likable. It is aggressive, alert and well prepared technically. It is doing a splendid service.

Marketing.

The great question before the American people today is that of marketing.

In the work accomplished by the Florida Citrus Fruit Exchange the farmer in the South is seeing the advantages of col-

lective marketing, and he has not been backward to take advantage of what he has learned.

The farmer has never believed the system of marketing cotton a fair one, and at this time he is translating his belief into action and is bound to get the just rewards of his labor. The movement is under full headway "to bring about the necessary reforms in the handling of cotton, in stabilizing its price, in destroying manipulators and making their further work impossible in allowing the law of supply and demand to operate, in destroying combines formed to destroy competition and drive down prices." This is surely an ambitious program, but one already under way.

The economic information gained by the sons of the South in the marts of trade, at the feet of the great teachers of economics in the universities, is about to bear fruit.

Collective purchasing is the step now being taken, and the South has the money and brains to put over this important project.

The social sense is developing rapidly. Good roads, good schools, improved sanitary conditions, house comforts. And with all this the unmistakable signs of the rare American culture that is fast becoming only a memory in the great centers of population in the North. Here life has perspective.

The South once drank a deeper and bitterer cup than was held to the lips of Belgium. Today it is rapidly emerging from the grinding poverty imposed by a great war, and no task seems too great for its spirit. Once more will it breed statesmen, great merchants and scholars, and there is no reason to believe it cannot produce great manufacturers. The greatest farmers this country has produced were Southerners.

Plans to Further Wool Industry in West Virginia.

Charleston, W. Va., July 10—[Special.]—A large part of the wool clip in West Virginia, amounting to about 200,000 pounds, it is estimated, will be pooled and sold through a Baltimore warehouse. Announcement to that effect has just been made by officers of the West Virginia Federation of Farm Bureaus, with a membership of about 15,000 farmers and wool growers, the membership being composed of many of the leading farmers of fully 75 per cent of the counties in West Virginia. The wool so pooled is to be sent to Baltimore, there to be graded and stored until a satisfactory price can be obtained for it. In this way wool growers hope to be able to obtain the highest market price for their product. A commission of 5 per cent is to be charged for handling the wool, the commission to be computed on the selling price. Advance payments on the wool will be made where farmers feel they must have the money.

There is a movement on foot to make available the cut-over timber lands in Randolph, Pocahontas, Greenbrier and other counties, which are well adapted to sheep raising. West Virginians returning from Montana and other Western States report that sheep growers in that section of the country are looking for additional territory for sheep-grazing purposes, and that all that is needed is a concerted effort to inform the Western sheep growers of the availability of West Virginia lands. It is proposed by those who are interested to present this matter to Governor Cornwell of West Virginia, in order that appropriate steps may be taken by the State of West Virginia to acquaint the Westerners with the large amount of West Virginia land which could be utilized in growing sheep.

116-Mile Drainage Canal for Everglades.

Canal construction to reclaim areas of land in the Everglades of Florida will be continued by the Arundel Corporation of Baltimore, the cost being estimated at \$3,000,000 to \$4,000,000. There will be 116 miles of construction for three canals, all included in the waterways system undertaken by the State of Florida. One canal is to be 70 miles long, and will begin at Miami; another will extend 28 miles and begin at St. Lucie; a third will have a length of 18 miles and touches Fort Myers. This contract was awarded last year to the Bowers-Southern Dredging Co. of Galveston, and its completion is to be undertaken by the Arundel Corporation, the latter company having acquired a portion of the Bowers-Southern properties.

Christian Schools in the Southern Highlands

EDUCATIONAL WORK IN PROGRESS AMONG THE MOST UNMIXED ANGLO-SAXON PEOPLE IN THE WORLD.

By VICTOR I. MASTERS, Atlanta, Ga.

[The mountain regions of the South contain the largest unmixed Anglo-Saxon population to be found in this or any other country. This mountain region has been a hive of productivity pouring out a steady stream of population from the mountain sides and coves down into the low country, furnishing hundreds of thousands of operatives in industry and leaders in enterprise, in education and in the ministry. For a hundred years or more this mountain region was cut off from contact with the world. Its population, therefore, has remained unmixed.]

Inherently these people have unsurpassed potentialities for educational and moral development and for becoming leaders in world affairs. A number of religious denominations have been active in carrying forward educational work throughout the mountain regions far in advance of the State schools. We aim to publish some facts regarding what each one of these denominations has accomplished, and because it has been received first we are publishing this week the story of what the Baptists have done in educational work in the mountains, written by Rev. Victor I. Masters, superintendent of publicity, Home Mission Board, Atlanta, Ga. The facts which he gives in regard to the work accomplished by these schools, and the numbers of ministers, lawyers, doctors, nurses and public school teachers that have been produced in this educational campaign, show its limitless value not merely for the mountain people, but for the country at large.—Editor Manufacturers Record.]

Anxious as is our age to become urbanized, traditional sentiment still usually leads us to put our educational institutions a bit back from the jargon noise of the mart, amid quiet groves, the classic shades.

As for the common schools, we are utilitarian enough to admit that they must stay around near where the people happen to live, regardless. As for those retarded sections of our population where often not even the common schools have flourished—well, what of them?

This story is a look-in upon the largest group of such people in America. Incidentally, it is an effort to appraise a section of our Southern population concerning which the writer here enters the claim that it has more undiscovered human potentialities, awaiting only half a chance for release, than any other group of disadvantaged people in the South or the nation.

For ability to forge to the front when a door of opportunity swings open, even if the door creaks or one hinge is off, I confidently enter as contestants the youth of our Southern Highlands against any and all similar groups among other sections of our American population. The proof exists in the records of the Christian schools that have been developed to help the Highlander youth within the last generation, and may at any time be confirmed by an actual study of the young people of the mountains at close range.

One summer, 30 years ago, a young minister chanced to be journeying by private conveyance through the beautiful Southern Highlands in company with Dr. I. T. Tichenor, a distinguished Southern educator and home mission statesman of the last generation. The young minister, now himself a prominent educator, offered this query to Dr. Tichenor:

"Is it not pathetic, doctor, that so many of the mountain boys and girls are hungering for an education, and yet have almost no chance to get it?"

"It is not nearly so pathetic and dangerous," replied Dr. Tichenor, "as the tens of thousands of boys and girls, better circumstanced concerning the educational opportunities, who in more developed sections of our country show that they have no appreciation of their opportunities."

Our race has not been able to get around the fact that hardships and difficulties are a better environment for developing that self-reliance and initiative which spells manhood and success than are ease and wealth. Just as the country lad is more favored than his city cousin in getting ready to fight the battles of life, because he is early initiated into the do-it-yourself order, while the circumstances surrounding the city boy so often lead him to understand that of all people in the land the Southern mountaineer youth, who is merely a country boy raised to the nth power, has early drilled into him that determination and self-reliance which will make a man of him if he can only get a chance to train his powers adequately—or even half a chance.

The mountaineer is not accustomed to co-operative action, mainly because he has always lived in his own mountain cove and depended on himself, where there was nobody either to lead or to

follow. He is a great individualist, and positively does not know how to co-operate with his fellows in community action. This is his misfortune, which is not without its compensations. The self-reliance born of isolation is a powerful thing, once you teach it how to do team work in co-operation with others.

When certain Christian bodies, a generation ago and more, began to take notice of the needs of the Southern Highland people, they discovered that, while the currents of civilization had been through the years rushing onward throughout the land, they had met an obstacle beyond the reach of their momentum when they reached the forest-clad escarpments of the Southern Appalachians. For a long while not even the railway builders were able to penetrate the elevated plateaus and valleys of the Highlands. Then certain leading ministers, prophets of the general weal, began an agitation in their religious bodies looking to the development of an educational interest in our Highland cousins.

For a time their efforts met with small response. Certain schools were started about 1890. Ten years later the work began to take on greater reach, and during the first 10 years of the present century a number of Christian bodies established systems of secondary schools for the education of our mountain youth. Chief among these were the Southern Baptists, Northern and Southern Presbyterians, Disciples, Northern and Southern Methodists, and Congregationalists.

The Northern Christian bodies were quick to sense the propaganda value of the romance which inheres in the quaint life of our Highlands. Unfortunately, they were too often slow to understand that of all people in the land the Southern mountaineer most resents the idea that he is being exploited. The men and women they sent among the mountaineers were often not able to resist the temptation to write about the quaint life of the Highlanders, which is merely the life of most of all our ancestors of 100 years ago, in a way that would fill the Northern reader with the thought that they were discovering wild and interesting "types" in the "mountain whites," a term which the mountaineer keenly and rightly resents and which the average Northern missionary student habitually uses concerning the mountaineer.

Our mountain cousins are sometimes unjust in their sensitiveness, but it is to their credit that they resent the smug assurance of outside people who would spy out the intimacies of their simple life and then run away to write about it in a way to satisfy the vulgar curiosity of sensation-sated city folk.

For the rest, this article will undertake to describe by way of illustration a single group of the Highland Mission Schools, which happens to be the largest single group and with which my work makes me familiar. But not before calling attention to the fact that the white population of the Southern Highlands is larger per square mile than it is in the extra-montane regions of the several States which contribute part of their territory to make the Highland region.

This is an astonishing statement. While it is soaking in, let me say that the mountain region of the Southern Appalachian includes 178 counties and seven States (West Virginia is not

counted in this estimate), and has an area of 76,592 square miles. By the 1910 census the extra-montane population of the seven States, part of which are in the Southern mountains, was 11,680,000, while the population of the mountain counties was 3,334,000. The 1920 census will make it about 4,000,000. The population per square mile is greater in the extra-montane regions when the negro population is included, but not otherwise. The white population in the Highlands is 39 per square mile, while in the outland regions of the several States it is only 27 per square mile.

Only 9 per cent of the population in the Highlands are negroes, and practically all of these are in the towns and mining districts. The negro is a negligible element in the mountains. In a number of mountain counties fewer than 100 negroes are to be found. "Mountain whites!" Who should a mountaineer be but a white?

Most of the people in the mountain country belong to some Christian denomination. By the 1906 census the number of church members was 973,000, of whom 463,000 were Baptists, 305,000 Methodists, 56,000 Presbyterians, 49,000 Disciples. There were very few of other denominations. Among evangelicals, two adherents without active membership may normally be counted to every member.

I would call the attention of the reader to the significance of the fact that the first outside educational aid for the Highlanders was that rendered by the Christian bodies. He will doubtless be familiar with the fact of this priority in other fields of educational progress. The time is now coming when some of the State authorities are beginning to establish high schools for the mountaineer youth. Not as a partisan for denominational education, but as a loyal patriotic American, it becomes every friend of human progress to understand and to give proper honor to the Christian bodies of this country for having been such consistent and invaluable pioneers in the field of education. When the State comes in later, it has the advantage of the public purse wherewith to do large things. But the friends of State education shall have only a partial and inadequate view of the needs of our citizenship and how they are supplied if they do not give full recognition to the invaluable pioneer efforts of the Christian bodies in this field, and to the equally essential service they continue to render in the educational field, even after the State, with its easier money, at length arrives upon the scene.

Though some of the States are beginning to venture into the Highlands with secondary education, for the most part this field is still almost entirely in the hands of Christian bodies, whose educational effort is essentially that of missionary aid.

The Southern Baptist system of mountain schools, operated by the Home Mission Board at Atlanta, began in 1903, under the superintendency of Dr. Albert E. Brown of Asheville, N. C., who is still in charge of the system, and who is a master in his great work for human progress. The system now numbers 38 schools, 33 of which are in the Southern Appalachians, while 5 are in the Ozarks of Missouri and Arkansas. Last year the student attendance was 6112, and the number of teachers 224. The value of the property, the title to most of which is held by the Home Mission Board, is about \$1,500,000.

A characteristic plant for one of these schools will contain at least three buildings, an administration building, a boys' dormitory and a girls' dormitory. The administration building is nearly always of brick, and contains classrooms, offices and an auditorium. Some of the schools have from 6 to 50 acres of land attached.

The location of these schools is determined by the centers of population and of interest in the Highlands. These centers may be at some mountain railway station, or they may be, and often are, from 15 to 25 miles from any railroad, back among the silent places of the beautiful mountain forests and valleys.

The formative principle behind all these schools of the Baptist Board is that of helping the people to self-help. District associations and communities that want to go forward but do not see how they can do so are sought out by the superintendent and are shown how. The contribution of the Home Mission Board is used to stimulate the largest possible local initiative, financially as well as otherwise.

This method exactly suits the mountaineer. He is used to doing things for himself, and it conserves his self-respect when he is brought to realize that he can do this co-operative thing largely by his own strength, just as he has done all the individual things of his life entirely by his own strength. Those Christian bodies

have had the largest success in the mountain schools that have pursued this method. There are some which have erected expensive school plants for the mountain people entirely with outlander money, and then told them to come in. For the most part the mountaineers have been very slow to come to such schools. When all is said, that is not to their discredit. They take hold best when they feel they are taking hold of their own. To help people to help themselves is to help them doubly.

The scores of men and women who teach in these mountain schools have done so with salaries almost as pitifully small as those of common school teachers elsewhere. There is now some slight improvement in the salaries. Their work is done back in the quiet places, where expert exploiters and propagandists do not come to observe. But there is no more picturesque or beautiful service being rendered by any equal group of men or women anywhere in the country than is rendered by these devoted teachers.

As indicating the hunger of the Highland boy or girl for an education, during the fiscal year just closed there were 256 applications from mountain boys and girls who desired to attend these schools on the basis of working their way through, that had to be turned down because there was inadequate opportunity for so many. Sometimes the parents of these young people believe in the schools and sometimes they do not. But the dreams of thousands of mountain boys and girls, as they move in and out in their simple life among the hills, lead them to hunger for the educational opportunity afforded by the schools.

How do they turn out? Fortunately, I can give an impressive answer in brief space. In 1916 a survey was made as to what had been accomplished to that time by the ex-students of these schools. If the figures could be given to the present, they would be even more impressive.

Up to 1916 this system of schools, operated by the Baptist Home Mission Board, had sent out 350 preachers, 200 lawyers, 225 doctors, 30 trained nurses, 30 missionaries and 2500 public school teachers. The number who had returned to the farms was 3000, while 900 were engaged in mercantile pursuits, 40 in banks, and 18 had served as members of State legislatures. That is a fine record.

It is astonishing how many young preachers come from these schools and are the product of mountain homes, down in the quiet valleys under the great hills. Last year the Baptist Home Mission Board schools had in them 157 young preachers. Every one of the denominational bodies could name preachers of high distinction who have come from these Highland schools. The Baptists point with pride to such men as Drs. F. C. McConnell of Atlanta and George W. Truett of Dallas, Tex., and a much larger group of younger but equally effective ministers who have been discovered and started on their way through the service of their Highland schools.

But, great and essential as is this service indicated above, I do not hesitate to say that the greatest single service rendered by these schools is their effectiveness in training a leadership which shall go back whence it came, and in the lovely Southern highlands build up a civilization which shall retain its pristine simplicity, while it adds to itself that which only culture and Christianity can give. They can do no greater work than training young farmers and teachers and home-makers, who shall understand how to take from nature the material she bountifully gives and build the things that are worth while in what we call better living, according to modern standards, while they hold on with giant grip to the things that are so abundantly worth while in the native self-reliance and hardihood of the Highland pioneer stock of America.

I can only refer in the briefest way to the course of study pursued in these schools. It is adapted to the people for whom it has been arranged. It takes hold of the boy and girl just above the period of primary work, and in some of the larger schools does not turn loose until they have done what is equal to junior college work.

One feature is being developed in which the general public will be specially interested. It is that of vocational training. An assistant has been employed for the superintendent, whose busi-

ness it is to work out an adapted system of industrial training in the schools, and then to put it in operation. The work is being done in connection with a close study of local conditions around each school. In general, it includes truck gardening, or intensive farming, on a scale sufficient to meet the needs of the schools while training the students; small canning plants of similar capacity; dairying, corn clubs, canning clubs, model orchards and the like. Also model homes are being developed at some of the schools in which the girls may receive training in home-making and domestic science.

These mountain schools, like the mountain folk, are retiring. You will not find them on the great highways which are being built through the Highlands for the auto. Not often. They are back where the people live, and the people got there before the highway system and have not yet moved out to it. But it will be worth the while of all friends of human development, who may this summer enjoy the pleasure of an outing among the green hills and valleys of our Southern mountains, to seek out one or another of these schools and get the care-takers for the summer (if the school is not in session) to explain the nature of the work that is done. There is nothing spectacular about it, but the formative forces of human character are never spectacular.

Out there among the everlasting hills, from the lonely coves and luxuriant valleys that slope down from the mystery of forest-clad mountains, through the fashioning hand of these Highland Christian schools, are being conducted on their way to high life-service beyond or back home the youth who shall make the Highland civilization of the future, and who already are doing far more than their proportionate share in serving the highest needs of civilization in the regions beyond the mountains.

Why Cotton Farmers Have Been Forced to Combine to Improve Their Condition.

American Cotton Association,
National Headquarters.

Atlanta, Ga., June 30.

Editor Manufacturers Record:

Mr. Chauncey Smith, industrial representative of the Southern Bell Telephone Co., Atlanta, Ga., in your issue of June 17 criticizes an article of mine which appeared in the *MANUFACTURERS RECORD* June 3.

He seems hurt over my advocating higher prices for cotton to the growers instead of urging that the present cost of producing cotton be materially lowered by increasing the yield per acre.

The cotton growers of the South, I still maintain, have been in practical agricultural slavery for 50 years, producing cheap cotton. Twice only in my recollection has the South averaged half a bale per acre, due to abnormally good seasons and very late frosts. Whether Mr. Smith's idea of increasing the average yield of lint to two-thirds of a bale per acre over the vast area planted is possible of solution I do not know. He says many farmers produce that and more per acre. This is true. One Georgia boy, a few years ago, produced 240 bushels of corn on one acre of land, yet the average for the State is considerably less than 20 bushels per acre.

Intensive farming is only possible under conditions of a dense rural population, where each man works only a few acres and obtains maximum results. Land is still plentiful in the South, and hence we have extensive farming in acreage per plow and an average minimum production per acre. The American Cotton Association is interested right now, under existing conditions, in securing for the growers a fair and reasonable profit above the cost of production, and that is all the association stands for in that respect with reference to the price of raw cotton. That profit is to be secured and maintained whether the future cost of production be high or low. This rule, I believe, applies to all well-conducted and prospering business enterprises.

The association not only advocates improved methods of culture and increasing the yield of lint cotton per acre, but it advo-

cates strongly better seed selection of uniform length and staple, so as to grow the longest staple and strongest fibre possible in every cotton county in the belt.

One of the strongest planks in the American Cotton Association is that every farm growing cotton shall be made absolutely self-sustaining through the production of ample supplies of food and feed crops, and that cotton may be produced as the surplus money crop of the cotton grower. If the proposition suggested by Mr. Smith of so materially increasing the yield of cotton per acre is a matter solely of individual effort, why has the average yield continued for so many years at less than one-third bale per acre? Theoretical conclusions do not always work out in practical application. Every possible effort is being made by the association to increase production at a lessening of the cost of production to the farmers, but while this process is being worked out through the years which lie ahead there must for the present be developed such safe and sane plans of marketing as that the producers may have a share in the wealth which they create. This they are not now receiving in prices being paid them for their cotton.

This is clearly shown in the enormous profits made by the mills and every other interest which touches cotton after the staple leaves the hands of the growers. Efforts are being made to create profitable markets for other farm products, but cotton continues to be the great staple money crop of the South, and an evolution in the lifetime habits and customs of a people cannot be successfully engineered in a year or two.

The American Cotton Association is handling the grave problems which confront agriculture in the South at the present time as best it can, aided by the best thought of hundreds of the leading successful business men of the cotton belt. The present is serious and the future is critical, with farm labor growing each year scarcer and the difficulties of the farmers increasing. We can all sit in the shade of an office with an electric fan cooling the atmosphere and write a beautiful essay on what the farmers should do to make rural life a cornucopia of ease and comfort, but the facts remain the same. It is only through intense organization and co-operation of the farming and business interests of this country that the highest and best in agricultural development can be developed. This is what the American Cotton Association is striving for, and it is what the association will yet carve into success.

Mr. Smith contends that it is a crime for farmers to produce only one-third bale of cotton per acre, and if they cannot better control the seasons and destructive insects, they should stop producing cotton altogether and raise something else. The American cotton crop is essential to the clothing of the civilized nations of the world. It is a crop which, if handled and marketed in an intelligent and businesslike way, will make the South rich and contribute to the wealth of the entire nation. No other crop produced in the South under existing conditions could take the place of cotton. We should surround the staple with every possible safeguard, and through its intelligent production, handling and marketing make farm life prosperous, happy and contented, and guarantee to every institution in the South permanent prosperity.

The cotton growers of the South have been too poor to improve their farms, build up their soils and increase yields of crops per acre. They have been tied to the production of cotton as the only credit crop which could be grown in the South. These are facts which every student of the cotton industry in this country knows to be true. The solution of the problem lies in aiding the growers to get a profit on what they produce. This will enable them to purchase farm machinery and implements to improve the soils, use fertilizers intelligently and compete in the employment of labor. It will mean freedom from the all-cotton industry and the building up of a truly independent diversified system of agriculture. It will mean the improvement of the country home, the education of the rural children, the building of better highways and contentment on the farm rather than the present tide of emigration from the farm.

The South and the nation are vitally interested in a proper and wise solution of these truly vexed problems. They cannot be settled by hasty criticisms of existing methods of farming and advice to stop growing cotton by every farmer who cannot produce a maximum yield per acre under any and all adverse conditions,

HARVIE JORDAN,
Secretary American Cotton Association.

Necessity for Producers to Control Price and Movement of Cotton Into Consumption.

By W. W. MORRISON, New Orleans.

The conditions under which the prime necessities of life, which is only another name for basic raw materials and is used here in that sense, are produced have changed greatly in modern times. During the earlier eras of civilization the producer had no voice in determining the price of the products that measured the earnings of his labor. This was the feudal concept, and its last influence was felt, so far as this country is concerned, during the regime of slavery. In our day this concept has been completely reversed, and it is obvious that such a reversal was necessary to the well-being of society, for the underproduction which menaces the world today demonstrates that the world will certainly suffer from a lack of prime necessities if the producer of these products does not regain and retain the control of the price.

These facts, as they relate to the production of cotton, stand out with bold and implacable significance. The magnitude of the menace growing out of this underproduction of cotton during the last five years warrants language just that strong. It was not, by any means, all due, as some think, to insects, climatic conditions and reduction in acreage. Every student at all familiar with the conditions under which cotton is produced knows that it was due in a very much larger measure to the producer abandoning the cotton fields because he could not control the price of his cotton. It is well to observe here that there is no hope of checking this underproduction until this control is absolutely restored to him.

Now, there is in the South a very considerable body of men who make up the real constructive force in Southern life. They are determining the economic and industrial policy of the South. They are men of broad vision. They realize that the interest of the world and the interest of the South are identical in the supply of cotton being maintained at such a level as will remove the menace which continuously resides in a production unequal to the needs of the world. While they do not believe in the economic fallacy of short crops as a means for bringing about higher prices, they do believe that the only way to secure a dependable supply is for the producer to steadily control the price, which means that he must just as steadily control the amount of cotton that shall move into consumption.

The initiative of this group of forward-looking men is already being reflected in changes that are vital and wholly constructive. They are, as indicated, combating economic fallacies that have heretofore stood in the way of putting the production of cotton on a sound basis; they are steadily bringing the growers to a practicable realization of what it is costing them to grow their cotton; they are bringing about the building of warehouses, so that the producer can retain control of his cotton for indefinite periods without the risk of loss from exposure; they will bring about collective marketing of a very large part of the coming crop, which means that the seller will enjoy the same advantages as the buyer when it comes to a knowledge of grades and market conditions throughout the world.

This is a great movement. It was born of a fundamental necessity. The militant spirit of the democracy that is abroad in the world and the character of the demands of labor which has grown out of it warrant the assumption that the movement is proceeding in the only direction from which, considering these world conditions, there is any reasonable hope of securing that dependability in the supply and that stability in the price for which an enlightened world and every enlightened spinner are so urgently calling today. This movement is being promoted through two organizations, the American Cotton Association and the Staple Cotton Corporation and Association. They are different, but are not antagonistic.

The Staple Cotton Corporation and Association is of particular interest. Staple cotton occupies a place in the cotton world peculiarly distinct from any other kind of cotton. While the supply is limited, it is necessary to the existence of some industries that exercise an important and far-reaching influence on the commercial and industrial life of the country. The supply and the demand both being restricted, the movement of prices are apt, as a conse-

quence, to be erratic and sometimes demoralizing. Stabilization of the price is, therefore, most urgent, and this can only be brought about through a complete control of both, the price and the movement into consumption, by the producer.

For this reason it is obvious that the undertaking of the Staple Cotton Corporation and Association should be supported by an active and sympathetic public opinion, and the methods through which they propose to carry out the undertaking should be studied in a wholly constructive spirit by everyone in the South, and especially by those who are directly interested in staple cotton. The fact that the output amounts to only about 600,000 bales brings the undertaking easily within the scope of practical achievement.

Increase in Cotton Acreage—Yield of 11,450,000 Bales Forecasted.

The Department of Agriculture estimates that the area of cotton in cultivation this year (1920) in the United States is about 35,504,000 acres, as compared with 35,133,000 acres, the revised estimate of acreage in cultivation a year ago, being an increase of 371,000 acres, or 1.1 per cent.

Condition of the growing crop on June 25 was 70.7 per cent of a normal condition, as compared with 62.4 on May 25, 1920, 70 on June 25, 1919, and 79.8 the average condition for the past 10 years on June 25.

A condition of 70.7 on June 25 forecasts a yield per acre of about 155.9 pounds and a total production of about 11,450,000 bales. That is, the final outturn will probably be larger or smaller than this amount, according as conditions hereafter are better or worse than average conditions. Last year the production was 11,329,755 bales, two years ago 12,040,532, three years ago 11,302,375, and four years ago 11,449,930 bales.

Weird Tale of Mexican Cotton Tree That Yields Twenty Bales of Fiber to the Acre.

Hidalgo, Tex., July 8—[Special.]—Growing the ceiba tree on a large commercial scale in the Lower Rio Grande Valley is to be attempted by James Loody, who has just returned here from an extended trip through the State of Tamaulipas, Mexico, which he made for the primary purpose of investigating the fiber-producing possibilities of this tree.

"The ceiba tree produces a fiber that is longer and of finer quality than cotton," Mr. Loody said. "The fiber grows in bolls, the same as cotton, and one tree will give an annual yield of more than one bale of 500 pounds. The tree is hardy, and, so far as I could discover, its product is not subject to any insect pest. In other words, a bountiful crop may be obtained every year. Some of the trees that I saw were 75 to 100 years old, according to the statements of the old people of the communities.

"The tree is found in Tamaulipas and the adjoining States, where it thrives, indifferent alike to continued rains or long periods of drouth, seemingly demanding nothing for its sustenance more than plenty of air, sunshine and tropical heat.

"Up to the present time, so far as is known, the tree has been cultivated solely for shade purposes, but I believe that it is destined to become a great factor in the industrial world. The fiber is fine and silky, and can be run into threads by being rolled between the fingers.

"An acre of the best land is expected to produce but one bale of cotton, while here we have the possibility of an acre of land being made to produce 20 bales of this fiber, since it is estimated that 20 trees can be grown to the acre. Since the culture of these trees would require a very small outlay, and since the gathering of the crop would be much more inexpensive than the task of gathering a bale of cotton from the fields, it is evident that the profits would be proportionately larger.

"The tree is quite hardy. After it gets well grounded, it needs no more irrigation or other attention. Its growth is rapid, so that it begins to bear in about four or five years. It thrives only in tropical climate, but it is thought the tree would flourish in Southern Texas, about Hidalgo, quite as well as in the State of Tamaulipas.

"This remarkable tree reaches a height of some 40 feet and is

flat on top, since the main branches extend horizontally from the gigantic trunk, which is seven feet in diameter. From the main limbs innumerable smaller branches extend outward, curving slightly upward, too. The main branches grow low, so that a man of six feet in stature can reach them easily by extending his arms upward at full length. It begins to blossom early in March, although it does not boast a single leaf at the time. In a short time it is covered with thousands of yellowish-white flowers, like magnolia blossoms, although they have not so many petals and have no perceptible odor.

"In two or three weeks the flowers begin to fall off, and are replaced soon by little green bolls, which contain the fiber that is attracting so much attention at present. These bolls grow rapidly, and when full grown are from six to eight inches in length, being two or three inches through and eight to ten inches in circumference at the largest point.

"The covering of this boll is very thick and strong, resembling bark. It is divided naturally into four parts, which are united at the top. This covering or shell falls off shortly after opening, and if the boll is left on the tree to be tossed about by the breezes, it attains in a day or two the size of a man's head. Little by little its fiber is carried away by the wind and floats hither and thither, the delight of birds, who seek it for nest linings, but an annoyance to good housekeepers for miles around.

"In two or three weeks the winds have robbed the tree of all its cotton, and then the leaves begin to appear, gradually clothing the great framework of bare branches with a wealth of rich, glossy leaves, which furnish a dense shade. One giant tree will shelter hundreds of people from the torrid sun, and people and livestock seek the shade of these trees throughout the heated term. The tree in full leaf is said to be one of the most beautiful specimens of the tropical vegetable world.

"The fruit of this strange tree is a fiber of such remarkable fineness and beauty as to resemble eiderdown more, perhaps, than any other material. It has so far been used by the native Indians only for stuffing pillows and coverlets for babies.

"One characteristic of the fiber will be much to the advantage of the grower, and that is that it can be gathered before the shell opens, or in what we may call the green state, without in any way proving detrimental to the product. This will do away with any possibility of loss by the action of the elements such as is suffered frequently by cotton growers.

"It is thought that a sharp pruning-knife device can be adapted easily for gathering this fiber, and that it can be ginned and baled just as the field cotton is prepared for the market."

Progress in North Carolina.

Raleigh, N. C., July 7—[Special.]—The improvement in condition of crops since normal weather set in, June 4, has been phenomenal. Many farmers were in extremely low spirits up to that date. Cotton has since made wonderful progress, and North Carolina now has as high a percentage prospect as any State, only two others being as high.

The Irish potato brought in much money this season to the group of eastern counties which specially apply themselves to this crop. Big farms are paid for by the one crop, and in some cases 100 per cent profit.

North Carolina last year produced one-tenth of all the sorghum made in the United States, its yield being 3,640,000 gallons. It is led by only Alabama and Mississippi. Here the average yield was 91 gallons to the acre, but with proper seed selection and cultivation the yield was 198 gallons. The average price is \$1 a gallon. This year the price will go higher unless the sugar famine is relieved. There is expected to be much demand in the Northern States for North Carolina sorghum. A hundred times the quantity now produced can easily be made.

This summer there will be three co-operative sales of wool in this State, and if there is not a good demand the wool will be made into blankets by the Chatham Manufacturing Co. of Winston-Salem and Elkin and then returned to the wool growers. This arrangement has been made so the wool growers will not be forced to dispose of their crop if prices are unsatisfactory. The North Carolina extension service will aid in selling any surplus blankets. Woolen cloth will also be made by the mills at the two points.

The "Sweet Potato Special" car, which visited many points in

this State in May, visited 30 points, in 22 counties, and over 3000 growers saw the exhibits and heard the experts. Plans for 300 storage-houses for potatoes were furnished, and the buildings will be put in this season.

The soy bean is being introduced by county farm agents in this State in an attractive and efficient way. They carry in their automobiles soy beans, which they sell in gallon lots at cost. If doubters are found, they are given enough beans for planting a few rows in the garden.

Reports are current that a great winter resort hotel, by far the largest in this State, is to be built in Moore county, between Pinehurst and Southern Pines, both noted resorts. The largest hotel at present is the Carolina, at Pinehurst.

The North Carolina Highway Commission will give a "hay ride" as a good roads educational illustration and will have as its guests 600 teachers attending the Summer School at the State College of Agriculture and Engineering. It will require two dozen of the big army trucks which were turned over by the War Department to transport the party, and Chairman Page of the commission will be in charge.

The town of Wake Forest, near Raleigh, has issued bonds amounting to \$125,000, and will install a public water supply and sewerage. At this place is Wake Forest College for Baptist young men, maintained by the denomination in North Carolina.

Fifty farmers of Onslow county this month visited the counties of Hyde and Beaufort to see the vast drainage and reclamation projects which have already put many thousands of the "black lands" in easy and cheap cultivation. Onslow is one of the largest counties in the State, and lies along the coast, north of Wilmington. Only 2 per cent of its area is under cultivation. The delegation of farmers saw the great farms at Terra Cela, Wenona and Belhaven, then visited Roper and saw the same sort of high development. They were taken to Lake Mattamoskeet, in Hyde, and there investigated the drainage of that body of water, the largest of fresh water in the State. Farm demonstration agents had charge of the party, and its members were handsomely entertained. The county of Onslow is very fertile, and only needs drainage and good highways to open it to the world. Among the big developers the visitors met at Terra Cela was Mr. J. M. Barr, who left the presidency of the Seaboard Air Line Railway to take over this great drainage scheme of the "black lands," which lie in seven counties.

Record Building Activity at Atlanta.

Atlanta, Ga., July 8—[Special.]—Building operations in Atlanta for the first six months of 1920, ending June 30, broke all records for any similar period in the history of the city, with a grand total of \$8,812,573.

Total value of permits issued for June amounted to \$2,324,662.26, this being the record for any single month in Atlanta's history, and nearly 30 per cent of the entire half-year's total.

The largest value is represented in business houses and factories, more than 100 such structures having been started since the first of the present year. Permits for more than 400 dwelling-houses were applied for, and most of these have been built or are being built in the Fourth Ward, the district which was destroyed by fire several years ago. Twenty-seven apartment-houses were included in the permits, of which number 15 are in the burned district.

Planning \$3,000,000 Hydro-Electric Development.

Final plans of the Arkansas Hydro-Electric Development Co., R. R. James, president, Cotton Plant, Ark., contemplate an investment of \$3,000,000 in White and Cleburne counties, Arkansas. This enterprise has been detailed previously by the MANUFACTURERS RECORD as follows: Dickinson & Watkins, engineers, Little Rock; J. E. Sirrine, consulting engineer, Greenville, S. C.; completed engineers' reports and perfecting financial arrangements; build hydro-electric plant on Little Red River; develop 22,000 horse-power; first installation, \$1,200,000; two dams, White and Cleburne counties; first and second dams and 130-mile transmission line to cost \$3,000,000; No. 1 dam 500 feet at top, with power-house, 10,500 kilowatts; No. 2 dam 550 feet at top, with power-house, 6000 kilowatts; reinforced concrete construction.

A BIG FORWARD STEP IN FARM MARKETING.

South Carolina Has Worked Out a Co-operative Plan for More Economic and Successful Marketing of Crops.

By A. B. BRYAN, Clemson College, S. C.

Much interest in South Carolina centers in the farm marketing plan recently formulated by the Extension Service of Clemson Agricultural College and soon to be set up in the various counties, whereby the marketing of cotton and other farm crops will be put on a business basis that will mean millions in dollars saved to the farmers and other interests and result ultimately in a more prosperous and happy country life. The proposed plan provides the machinery and details of operation for the grading, warehousing and marketing of the State's greatest cash crop—cotton—and all other cash crops that may now or later be grown for sale rather than consumption.

The necessity for some well-planned and properly handled method of farm marketing has been a long-felt one, and the Extension Service of Clemson College has given much thought to the problem. Already for several years county marketing associations, with or without co-operative basis, have been fostered by the Extension Service, and these organizations have rendered much help in selling and buying for farmers. Special attention, too, has been given to cotton marketing, and for two years official cotton graders in a limited number of counties have demonstrated to the farmers in those counties and in the State as a whole that the value of a bale of cotton depends largely on its class and grade rather than on its weight alone. Starting with three of these cotton graders in 1918, the Extension Service is now maintaining seven of these demonstrator graders.

But these graders are graders only, and they can only give the farmer disinterested information as to the grade and quality of the product, and they, of course, give no attention to other farm products which the farmer may have to sell. Nor do they render any service in the matter of warehousing or actual selling of the cotton graded by them.

With the cotton-grader service as a basis, Director W. W. Long, who has a genius for forward looking and for laying plans of far-reaching benefit in agricultural and rural economic matters, conceived an idea for general farm marketing which has been worked out by the Extension Service forces and has been received with high commendations. This plan is the basis of a co-operative agreement between and among the South Carolina Division of the American Cotton Association, the South Carolina Warehouse Commissioner, the States Relations Service and the Bureau of Markets and the Extension Service of Clemson College. The agreement has now been signed by all parties concerned, has been endorsed and approved as an excellent piece of constructive work by Secretary of Agriculture E. T. Meredith, and will be put before the people in a campaign which will begin July 15.

Briefly, the plan is to have a licensed "cotton grader and county marketing agent" in any county in the State where funds for warehouse facilities, salaries and other necessary operating expenses are provided or guaranteed by local organizations, especially the county branches of the cotton association. The Extension Service is to select by examinations the eligibles for appointment, and the Bureau of Markets will license these as official graders and marketing agents. The State Warehouse Commissioner is to render assistance in establishing warehouses for cotton and other products, and will, in accordance with law, grant negotiable warehouse receipts on cotton properly weighed, graded and housed. Supervision of the details of operation will lie with the Extension Service, which will use the county agents in furthering the work in their respective counties.

Many counties in the State have already made complete or partial arrangements for funds and for warehousing facilities, so that they may come within the provisions of the agreement. Existing warehouses have been purchased where available, and new warehouses are to be built at community centers. This phase of the plan alone will save millions of dollars now being lost by "country damage," to say nothing of other millions being lost by forced selling of cotton on unfavorable markets.

But eventually one of the biggest blessings of the system will be its stimulating effect on the growing of other cash crops, which will be made greatly more stable, safe and profitable through

warehousing and grading, and through the opening and developing of markets for these crops. Sweet potatoes, peanuts and livestock especially will thus become more important and more profitable farm products as the dread boll-weevil makes cotton a more uncertain and unprofitable main dependence.

Commendation of the plan, which, by the way, Alabama and other cotton States are about to take up, has been received from noted students of agriculture and rural economy. Extracts from letters from two of these may be of special interest.

Mr. Clarence Poe, president and editor of *The Progressive Farmer*, writes to Director Long: "I have read with much care and interest the copy of the co-operative agreement you sent me. I heartily approve the plan, and can suggest no changes. I hope it will go through as it is. The plan for having cotton grader act as county marketing agent for farm products other than cotton is especially pleasing, and opens up a tremendous field for service which I am anxious to see tried out."

Ex-Congressman A. F. Lever, now member of the Federal Farm Loan Board, writes: "I have read over the memorandum you gave me relative to the marketing of cotton, and you have struck the keynote of the whole cotton situation. If you put on a campaign in South Carolina, I will take two weeks of my annual leave and give it to you, because I believe that no greater service can be rendered the people of South Carolina than to help work out in a practical way the plans you have formulated."

These two gentlemen, and probably Secretary of Agriculture E. T. Meredith and Editor R. H. Edmonds of the *MANUFACTURERS RECORD*, will make addresses in the preliminary campaign at three points in different parts of the State on July 15, 16 and 17, these to be followed by local campaign meetings at two points in each county to establish the work.

A brief summary of the agreement entered into by the co-operating agencies is as follows:

A. The appointment of a trained and experienced cotton grader for each county making request. The grader shall classify all cotton submitted to him on the basis of the official cotton standards and make official reports thereon. He shall serve also, upon request of the county branch of the South Carolina Division of the American Cotton Association, as the county marketing agent of such county branch for farm products other than cotton.

(1) Selection of eligible cotton graders and marketing agents will be by examination conducted by the Bureau of Markets and the Extension Service of Clemson College.

(2) Funds for payment of such graders and agents will be provided by the county branch of the South Carolina Division of the American Cotton Association, except a nominal salary from the United States Department of Agriculture.

B. The State Warehouse Commissioner is to furnish upon request plans and specifications for warehouses needed. The Extension Service is to furnish plans and specifications for warehousing other farm products. The State Warehouse Commissioner will furnish, according to law, negotiable warehouse receipts for cotton properly weighed, graded and housed.

C. In each county where this agreement is put into effect the county branch of the South Carolina Division of the American Cotton Association is to provide or guarantee funds for the lease, purchase or erection of warehouses and for operation thereof under the State or National Warehouse Act, and, with the aid of the South Carolina Division, shall provide for hypothecating warehouse receipts at a uniform and minimum rate of interest.

Supervision of the graders is to be the duty of the director of the Extension Service, who will report to and confer with the other parties to the agreement.

D. It will be the duty of the county agricultural agents of the Extension Service to co-operate with the cotton graders and marketing agents in their respective counties.

E. The agreement is renewable each year by mutual consent, or terminable at any time under certain conditions.

\$500,000 Fertilizer Company Organized.

General fertilizers will be manufactured by the Natural Fertilizer Co., St. Augustine, Fla., organized with \$500,000 capital. The officers of this new corporation are: President, I. B. Bus-sells; vice-president, S. B. Teakle; secretary-treasurer, D. N. Chadwick, Jr.; all of Fernandina, Fla.

Electric Forging Steel

By ARTHUR V. FARR.*

The increase in the use of electric steel probably had its rise in the fact that by its use lighter parts could be used without sacrifice of strength and safety. In the case of automobiles, for instance, with the reduction in weight of the cars, tires last longer and fuel consumption is reduced without loss of road ability. Even the so-called "heavy" cars have reduced the weight of parts by the use of improved steel and thereby lessened the unsprung weight upwards of 15 per cent. Thus the scientific light car was born, and electric steel has come into increased and permanent use.

It is a fact that of the four best American-made cars today all use electric steel for the vital, highly stressed parts.

It might be well to consider where electric steel fits in with the various types of steel now on the market. Briefly, it may be stated that there are four kinds of steel used for forgings:

First—Bessemer, which is used in relatively small amounts for cold-drawn and screw stock.

Second—Open-hearth steel is widely used for the various structural and moving parts, such as frames, shafts, etc.

Third—Crucible steel is used for small parts subject to heavy stress, and which practice shows are subject to failure.

Fourth—Electric steel is used for structural and moving parts. Electric steel is having a large percentage of increased use. Ten years' experience in this country and Europe indicate that in its natural qualities it is equal to the best grades of steel made by other processes. The rare purity of the heat derived from the electric arc, combined with the ease of definite control, explains in part the merit claimed for it.

No other property of steel has as great an effect upon its actual working strength as cleanliness. By clean steel is meant freedom from foreign matter, such as slag, oxides, sulphides, etc., which destroy the homogeneity of the structure and form zones of weakness.

Examination of a broken automobile steering knuckle not

infrequently shows traces of slag, the presence of which was the direct cause of the failure of the steel.

During the war the Ordnance Department of the United States Government was obliged to investigate the cause of the failure

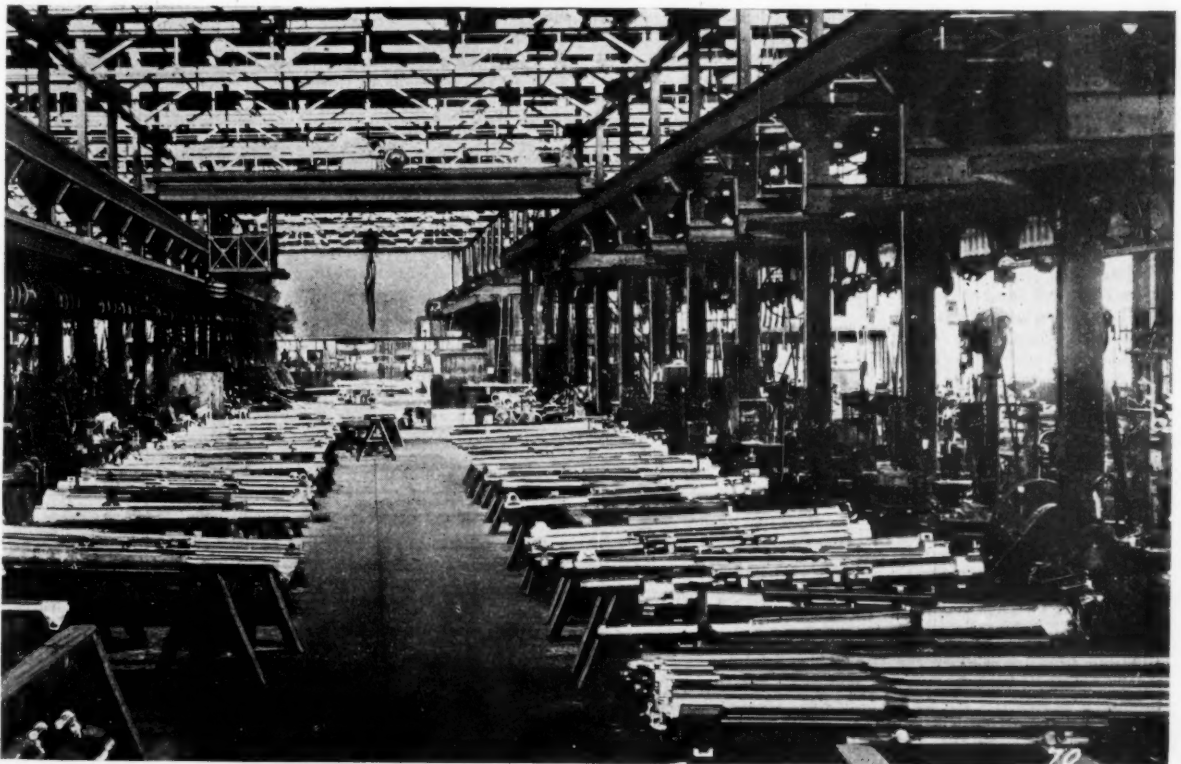


HAMMERED RINGS FOR BALL-BEARING RACES. MADE BY HESS STEEL CORPORATION.

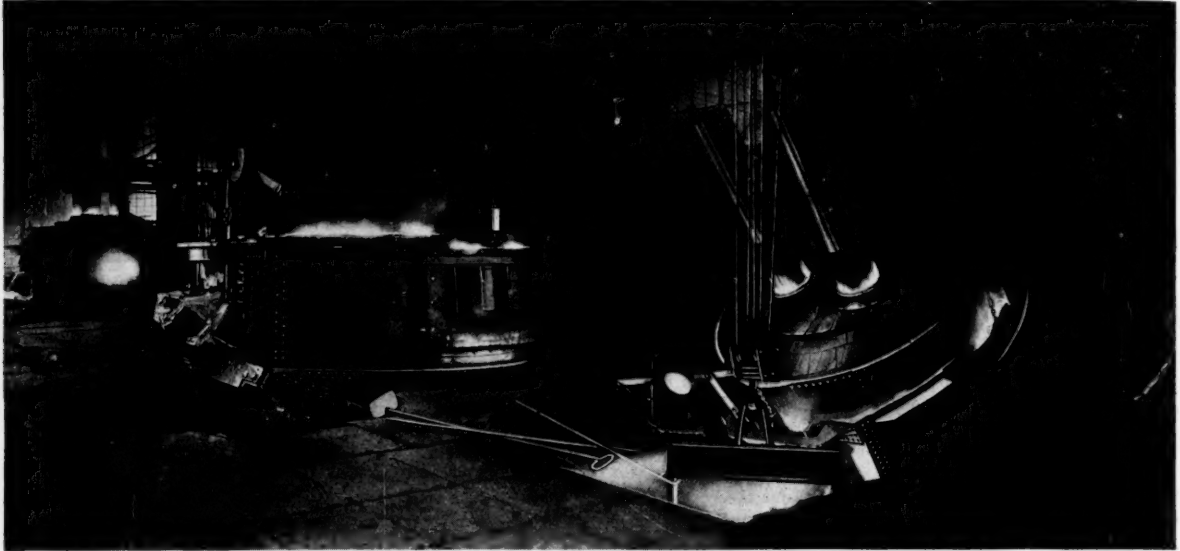
of gun steel on transverse fracture tests, and it was found that electric steel gave remarkably successful results. In the case of one of the largest and foremost ordnance finishing plants, where the product of the Hess Steel Co., with which the writer is connected, was used for 50 per cent of its output, the metallurgist reported that approximately 80 per cent of the forgings produced were passed on the first test, and still more on the final test, so that the total rejection and loss at this plant was less than 10 per cent. This figure will perhaps be appreciated in view of the fact that a Washington ordnance official's figures show that 60 per cent was the accepted percentage on the first test and that the hitherto best practice in the country yielded not more than 70 per cent after all tests.

The physical tests required by the Ordnance Department were

*Sales manager the Hess Steel Corporation, Baltimore.



77 MILLIMETER GUNS IN PROCESS OF MANUFACTURE. JACKETS FOR THESE GUNS MADE BY HESS STEEL CORPORATION.



POURING A HEAT OF ELECTRIC STEEL AT THE PLANT OF THE HESS STEEL CORPORATION, BALTIMORE, MD.

readily met, provided the steel was well made, homogeneous and clean.

The limits to which steel may be stressed are being more accurately measured today than ever before. Not only are the strength, elasticity, reduction of area, etc., being measured, but these values are entering into engineering calculations more and more.

Reduced weight of parts and increased speeds are subjecting steel to stresses never heretofore considered safe. It is not uncommon for moderate-sized stock cars to be guaranteed to go 60 to 70 miles per hour. Think what this means in strain on gear teeth! The best steel available is none too good for these vital, highly stressed members.

It is not a question as to how a single test specimen pulls that is the measure of merit of a steel, but how that steel tests "day in and day out" in the shops and on the road. And it is in just such tests that the superiority of electric steels shows up.

This is the day of heat-treated steel. More and more are we finding the advantages and necessity of refining the grain, relieving internal strains and putting the steel in condition so that it will give best results.

There is a growing tendency for forging companies to have well-fitted-up laboratories and to examine the structure of the steel being used. This is distinctly a forward step and points the way to accurate heat treatments and more satisfactory results. The demand for aeroplane engines with weight well below three pounds per horse-power, and for reduced-weight automobiles, necessitates the use of the proper grade of steel and the proper heat treatment.

Where difficult physical properties are to be met, the use of electric steel is of definite advantage. Said the superintendent of one forging company, "When the physical requirements of a steel specification are severe, I have found it much easier to meet them by the use of electric steel."

Heavy Grain Shipments from Galveston.

Galveston, Tex., July 7—[Special.]—H. A. Wickstrom, chief grain inspector of the Galveston Cotton Exchange and Board of Trade, has just compiled figures showing that 4,677,796 bushels of wheat were exported from this port during the month of June. This is an increase of 1,376,167.40 bushels over the total shipments for June, 1919, and brings the total shipped since July 1, 1919, up to 22,259,419.55 bushels. This last total is an excess of 13,634,965.19 bushels over the shipments for the same period the previous season. The total of the year ending June 30, 1917, was 22,989,883.30 bushels of wheat exported, and that amount is only an excess of 770,463.75 bushels over the amount exported the year just closed.

Liverpool, with 4,435,813 bushels, leads the list as the receiv-

ing point of the shipments made from Galveston. Gibraltar, with 4,097,840.50 bushels, is a close second. Manchester then follows, with 2,565,994.30 bushels, and close behind comes Antwerp, with a total of 2,151,041.40 bushels. Dunkirk, Avonmouth, Glasgow, Leith and other United Kingdom ports come next in line.

The vessel carrying out the largest cargo of wheat during June was the *Lippe*. She lifted 342,450 bushels of the grain for Glasgow. Second comes the *Sonnenfels*, with 303,500 bushels for Cardiff, and third is the *Maine*, carrying 301,000 bushels of wheat for Gibraltar. The first two-named vessels are of British registry, while the last flies the American flag. During the month one shipment of rye, 200,000 bushels, was made to Bremen, and the *Septima*, a German bottom, was loading 13,200 bushels of wheat and 21,000 bushels of rye for Hamburg. These were the only shipments made to Germany.

"Open orders for all grain to be delivered at the elevators upon arrival are now in effect, and no semblance of crowding has been observed since the removal of the wheat permit system here," declared Mr. Wickstrom. "Something like 100 or 150 cars of grain are being received in Galveston daily, and we are putting them in bottoms without any delay. Judging from present indications and the movement of the past month, a wheat embargo is a thing of the past for Galveston, and we are in a splendid position now to handle as much grain as arrives, and to handle it as fast as it arrives."

Modern Marine Works for Tampico.

Tampico, Texico, July 6—[Special.]—The Tampico Marine Works has begun the construction of its large machine shop and foundry on Buckley Island, just across the Panuco River from Tampico. The old plant, on this side of the river, now occupied by the company and formerly known as the Oklahoma Iron Works, will be used for the company's woodworking department.

The main works, however, will be located on Buckley's Island, where a complete marine repair shop will be built. It will include a foundry, machine shop, power-house, forge, boiler and tank-houses, welding and copper smithing departments, pattern and carpenter shops, and the like.

Work on the foundry and machine shops has been started, and these will be the first of the departments to be completed. All of the buildings will be constructed of reinforced concrete, with metal sash and concrete roofing. A 10-ton electric traveling crane will run through the machine shop from the street to the river, and a narrow-gauge railroad will run around and through all of the principal workshops.

What We Can Learn From French Forestry*

By JOSEPH HYDE PRATT, Director North Carolina Geological and Economic Survey.

While in Belgium and France serving with the American Expeditionary Forces the writer had an opportunity to observe several of the national forests of these two countries, the French method of caring for these forests, the shortage of timber and their need of conserving every bit of the tree when it is cut. Many of the soldiers serving in France were forcibly impressed with the shortage of timber and firewood, and saw large quantities of material being carefully saved and utilized which is destroyed and wasted in this country. A realization of the value of timber has been forced upon France and Belgium by a long-continued scarcity. The people have learned to use all of every tree that is cut.

When the 30th Division reached France, headquarters were established at Nordusque, and while there several large trees along the roadside were cut by the French. The Americans were astonished to see the manner in which the tree was cut up and utilized. First, the saw-logs were cut, and every inch that could be included in the saw-log was there—not a bit wasted. The limbs were then carefully trimmed of all the smaller branches and piled up for cordwood. The smaller branches from an inch to an inch and a half in diameter were then trimmed, and this material also used as cordwood. The balance of the branches and twigs were then gathered and bound together in bundles as fagots. Thus, when the Frenchmen had finished with the tree and had it ready for shipping, there was nothing left on the ground except leaves and a few twigs that had dropped off in cutting. The men at first could not realize that these bundles of fagots could be of any particular use as firewood, but before they left France they had not only seen these bundles of fagots utilized in baking bread and slowly fed to smaller fires in hearthplaces for heating purposes, but had used similar materials themselves for heating purposes.

On leaving the Nordusques area the 105th Engineers, of which the writer was colonel, made a three-day march to the front. On this march the regiment passed over roads which in nearly every instance were lined with beautiful trees that were kept trimmed and in good condition. Whenever a limb was cut the wound was looked after, and the material cut was used for cordwood and the branches made up into bundles of fagots as already described. The regiment passed by and through a large national forest near Inglinghens. It was noticed in this forest that the young trees and seedlings were carefully saved and protected, and that instead of clearing a forest area promiscuously, as we do in this country, only the mature trees were cut and taken out, or perhaps a few that was necessary for the better growth of the others. Here, again, anything that was cut, little or big, was carefully prepared for shipping. It was also noticed that there were fire lines made through these forests, many of which were wide enough to be used as roads, and were used as such. They were kept clear, and so would prevent the spread of any fire that might occur.

In the forward area in Belgium the 105th Engineers were stationed for some weeks in the Proven area, near Proven, Flanders, and near which is a small forest that had escaped any serious damage from shelling by the Germans. This forest, while not then receiving the same care and attention that it had previous to the war, showed how it had formerly been thoroughly cared for. The fire lines, some of which were wide enough for roads, ran through the forest, crossing each other at right angles every few hundred yards. A portion of this forest had been used for an encampment and considerable damage was done to the small growth, but the size of the mature trees, with their interlacing branches, made an effective screen for the troops camped in the forest and prevented their being seen from German airplanes. All these forests had the appearance of forest parks, all parts of which were accessible to the people.

In France there are no virgin forests in the sense in which we use the term in this country, but everyone who sees one of their protected and well-cared-for forests is amazed at the yield of

timber that is secured. France is dependent on the timber it grows, and consequently grows it with deliberate care. While North Carolina may not as yet fully realize its shortage of timber, yet the time is coming when this State must do the same thing as France.

From July 10 until after the armistice was signed the work of the 105th Engineers was in the forward areas that had been fought over several times and in which practically all the forests and shade trees along the roads had been destroyed. In some instances not even a seed tree had been left. Orchards had also been destroyed, not only in the general course of a bombardment, but they were destroyed deliberately and maliciously by the Germans. One large orchard was observed in the Somme area where every single tree had been cut and was lying on the ground.

One good seed tree, if left in an area that had been cut over, would very quickly reseed the area if it was protected from fire and stock. The French forests do reproduce themselves with the valuable trees they formerly grew on these areas.

In Eastern North Carolina the reason the State has lost its prestige as a producer of tar, pitch and turpentine and long-leaf lumber has been the fact that our long-leaf pine forests have been so thoroughly lumbered that in some areas not even a seed tree was left; and even in areas where an occasional seed tree had been left, no attempt was made to prevent fires from burning over the area or keeping hogs from exacting their toll of the seeds that might otherwise have developed into long-leaf pine seedlings. I have heard the statement made many times in Eastern North Carolina that it was impossible to reproduce the long-leaf pine; that if an area had once been cut it would never reproduce long-leaf pine again. This idea has been exploded by examples of regrowth of long-leaf pine on cut-over areas where seed trees had been left and fires and hogs kept out. One good example is in New Hanover county, where a splendid stand of long-leaf pine is to be seen between Wilmington and Wrightsville. Fires and hogs have been kept out. Across the river, in Brunswick county, long-leaf pine has been exterminated because fires and hogs have not been kept out.

At Urania, La., a tract of long-leaf pine timber was cut in 1902. A small sapling, 10 inches in diameter, was left standing. This tree continued from year to year to bear seed, which, as they ripened, were scattered by the wind over a considerable area, and soon four or five acres were reforested with a fine growth of seedlings. Although occasionally fire has swept over portions of this area, and some hogs have taken toll of the seeds, there is today a stand of 500 to 1000 seedlings and saplings to the acre. In Louisiana it is reckoned that there are 12,000,000 acres of idle cut-over lands. In North Carolina there are several million acres of cut-over lands which, at the present time, are not producing timber or farm crops, and should be put to work. Such cut-over lands as are not needed for agricultural purposes should be made to produce another crop of timber.

In the Landes region France has converted what was once a fever-ridden swamp into a healthy district by drainage and planting pine trees. It has at the same time established an important naval stores industry. If this can be done in France, the writer can see no reason why similar results cannot be obtained in this State and North Carolina again become a naval stores State.

As was noted in France, there was no idle or waste land. Any area, no matter how small, that is unfit for agricultural crops or pasture is growing trees, because the wood is needed. When a forest area was cut for agricultural purposes, it was cleared completely and every bit of the tree utilized, stumps and roots; and land that was not used for agricultural purposes was put into growing timber.

The first essential in reforesting an area is that seed trees shall be left on the cut-over lands, and laws should be passed that will require all lumber companies, in cutting forests, to leave adequate seed trees for reforestation.

As already stated, the long-leaf pine has been almost exterminated

*Paper read by Dr. Joseph Hyde Pratt at the Tenth Annual Meeting of the North Carolina Forestry Association, Asheville, N. C., June 9, 1920.

nated from Eastern North Carolina. through reckless lumbering and turpentineing, in not leaving seed trees. The yellow tulip poplar has almost been exterminated from the mountain region of the State for similar reasons.

When we realize that such splendid economic results can be obtained by employing forestry methods, it is a crime that this country does not pass the necessary legislation for the protection and conservation of our forests and timber supply.

I wonder how much lumber is wasted each year in this country by the wasteful methods employed in its utilization. Consider, for instance, the waste of lumber in the building of every wood house. Notice the waste in many manufacturing plants.

Often before the timber is cut into lumber there has been, and is, a considerable waste in cutting saw-logs, which is not the case in France. Every inch of the saw-log is saved and utilized for timber.

The question is often raised, Is the cultivation of timber profitable? Notwithstanding this question, it is true that all land should be producing something, and if land is not needed for agricultural purposes, then it should be growing timber, and there is no question but that such a growth on abandoned farm lands and lands not suitable for this purpose makes profitable timber cultivation. There is no question but that, under certain circumstances, cultivation of timber is a profitable investment.

Another phase of forestry noted was the community or communal forests or wood lots. One rather large forest area was observed near Bonnetable, in the Le Mans area, where the forest was owned by the city of Bonnetable, the owner of the chateau and several other cities. The forest was used partly as protection of the city's water area and also a community wood lot for the citizens of the town. The forest area was carefully protected, and as trees became mature they were cut for timber. All of the material for firewood was used by the citizens of the town.

In closing, I would summarize the lessons from France as follows: Protection of forests from fire; conservation and careful utilization of timber; leaving adequate seed trees on cut-over lands; conservation of lumber; making every acre of land produce something; community forest areas, as well as National and State.

Foreign Commerce Through Mobile.

Mobile, Ala., July 10—[Special].—Through the Isthmian Line, which handles United States Steel Corporation shipments out of Mobile, a big export trade with Holland is being developed. Alabama-made products of iron and steel supply the principal cargo. An example of the magnitude of these shipments is furnished through the cargo list of the Ensley City, 9600-ton all-steel steamer just completed by the Chickasaw Shipbuilding & Car Co., and characterized by a representative of the Isthmian Line as the most perfect vessel ever turned out and inspected by him in any shipyard.

Most of the Ensley City's cargo, unofficially estimated to be \$500,000 in value, will be made up of Alabama steel products made at subsidiary plants of the United States Steel Corporation in the Birmingham district. She will carry 5700 tons of steel, 1,275,000 feet of lumber and timber and 61 automobiles for Rotterdam, Holland. The automobiles represent a new class of freight which until recently has been exported through the Atlantic seaboard, but which now comes down the Mississippi Valley to Mobile.

The first vessel completed by the Chickasaw plant, Chickasaw City, took cargo for Rotterdam some time ago. The second steamer, Birmingham City, inaugurated the opening of the Mobile-Far Eastern line of the Isthmian company from this port. Another steamer, Mobile City, is now being completed at Chickasaw, where she was recently launched.

The Ensley City during her trial trip here July 8 made an average speed of 12.4 knots per hour. The requirement was only 11 knots. A remarkable feature of the trip, according to those familiar with navigation, was the total absence of vibration of the Ensley City during the trip, despite the fact that the vessel was light.

The Ensley City will probably clear this port drawing the heaviest draft of any vessel since the new 30-foot channel project was completed.

Recommendations Affecting International Business.

The Chamber of Commerce of the United States announces from the Washington office the receipt of a comprehensive report of the work of the first meeting of the International Chamber of Commerce. The new organization was created in Paris at a meeting just ended of 500 delegates from the five countries that participated last fall in the International Trade Conference—Belgium, Great Britain, France, Italy and the United States. Business interests in other countries will be taken into membership later.

The meeting gave the delegates an opportunity to take up many questions of international business relations. The cable from Paris gives the following summary of the action taken on a number of the most important subjects considered:

Restoration of international credit, based on fixation of the amount and the conditions of payment for the debts of all countries, Allies or enemies, was urged.

It was resolved that allied States should agree also, as soon as possible, to fix definitely the amount and conditions of payments according to the stipulations in the treaty.

There should be an avoidance of duplicate taxation of wealth of individuals or organizations in more than one country.

There should be a reduction of unnecessary expenditures on the part of local and national governments.

Extension of credits, uniform banking laws and war damages were dealt with.

Reciprocal international treaties relative to import and export taxes were advocated.

An international credit bureau was planned.

National and local chambers of commerce were requested to co-operate with their governments to reduce national and local governmental expenditures.

Governments and banking, commercial and industrial associations in all countries were urged to co-operate with the International Chamber and with each other to reduce importation of non-essentials by countries whose exchanges are depreciated and to increase exportations from such countries.

There should be an endeavor to obtain the co-operation of labor to prevent delay in the turn-around of ships, delay between ships and trains and delay in transportation by rail.

There should be a restriction as far as possible upon countries whose exchanges are depreciated issuing foreign loans.

There should be a reconstruction special committee to study the exchange situation.

There should be inducement of foreign investments in home countries.

There should be encouragement of tourists through removal of unnecessary restrictions.

It is desirable to furnish raw material and credits.

There should be facilitation and simplification of passport procedure.

A committee was proposed to investigate the mischievous use of trade names and of misleading indications.

Common nomenclature was proposed for customs tariffs of the Allied nations.

Revocation of import and export prohibitions was urged as soon as internal conditions of each country will allow.

A resolution petitions the board of directors to establish a central bureau for international statistics covering production with forecast of output and probable needs of each country.

The world's stock of fuel was discussed.

A resolution urges hastening of utilization of hydro-electric power, development of measures for the use of mineral fuel scientifically and economically, and development to the utmost of research in the extraction of coal and oil resources of the world.

The full meeting expressed an opinion that Germany had not demonstrated an intention to fulfill its obligations to the Allies, as agreed in the Treaty of Versailles. Allied governments were urged to tolerate no further delay in the carrying out of the treaty agreements.

The next meeting of the International Chamber will be held in London next June. Temporary headquarters have been established in Paris. The location of the permanent headquarters is left to the board of directors.

A \$50,000,000 Texas Ranch Owned by a Woman— The Great King Ranch of 1,280,000 Acres a Principality.

Kingsville, Tex., June 28—[Special.]—The Fourth of July is the birthday of the town of Kingsville. Sixteen years ago this now thriving community of 5000 inhabitants was a wilderness of mesquite bushes and prickly pear. It is only another instance of the remarkable achievement of a woman. Established and fostered by Mrs. H. M. King, wealth ranchwoman of this section, the town has had a steady and stable growth since its inception. Mrs. King's great ranch of 1,280,000 acres surrounds the town. It was through the encouragement and support of Mrs. King that the St. Louis, Brownsville & Mexico Railroad was built down the Gulf coast through the heart of her big ranch property 16 years ago, thus making it possible for her to begin the building of a new town. She donated 320 acres in the center of her big estate as a site for the municipality. Before the advent of the railroad it was 30 miles from Mrs. King's ranch home to the nearest railroad point.

The recently enacted "dry" law had no effect upon the town of Kingsville. From the very beginning it has been a prohibition community in the strictest sense. The deed to every lot and piece of property stipulates that no intoxicating liquor shall be sold upon the premises.

In the matter of municipal service, such as water-works, electric light and sanitation systems, Kingsville ranks high. Practically all modern conveniences are provided for the citizens of the town. The class of residence and business buildings would do credit to a town of several times the size of Kingsville. Not long after the establishment of the town Mrs. King donated \$30,000 for the erection of a handsome brick school building. It is her desire to make Kingsville the model town of Texas in citizenship, business and civic attractiveness.

In order to encourage the settlement and development of the territory around the town, Mrs. King divided a part of her original ranch into farms and sold them to the new settlers. Abundant yields of various kind of crops are produced. Many orange and other citrus fruit orchards have been planted, and some of them are now bearing.

The recent discovery of oil in a test well located six and one-half miles southeast of Kingsville has created widespread interest in this section. At 3013 feet the well began flowing oil and salt water by heads. The flow continued for about two weeks, when drilling was resumed in the hope that a thicker oil sand might be encountered.

The original ranch home of Mrs. King, a large frame building,

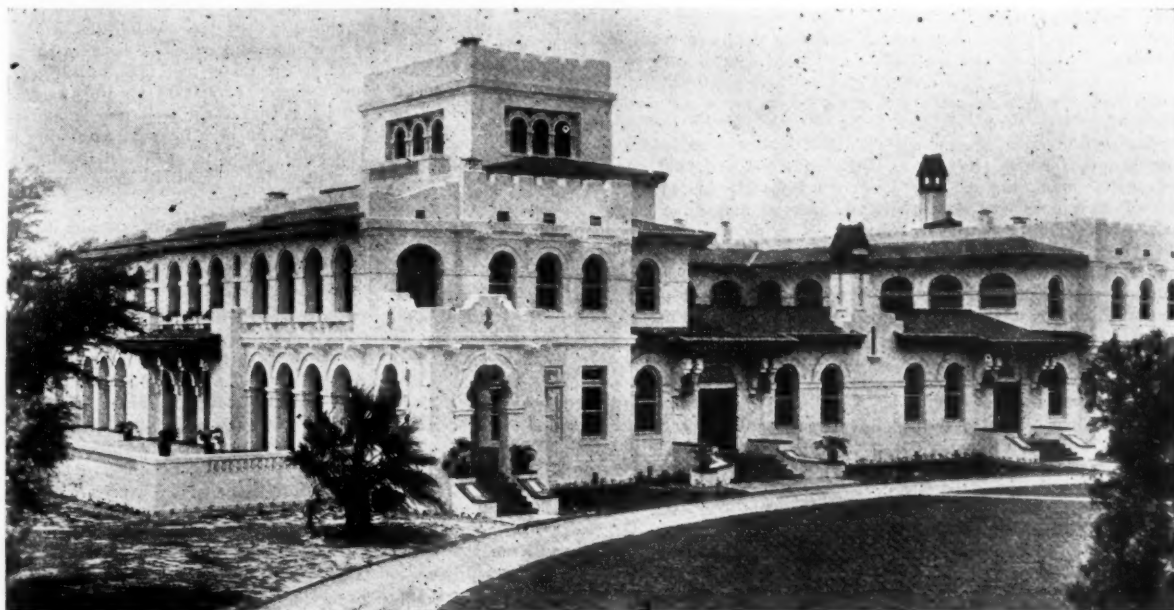
was destroyed by fire a few years ago. In its place Mrs. King erected a beautiful and palatial home. Although she is one of the wealthiest women in the world, Mrs. King lives in the most unpretentious style. She belongs to the old type of frontierswomen. It is estimated that her ranch would sell for more than \$50,000,000 if divided into farms and placed upon the market. She numbers her cattle by the tens of thousand head. Her annual revenue is enormous.

In the days before the building of a railroad through this section the ranch home of Mrs. King was a noted stopping place for travelers who were on their way overland to and from the lower Rio Grande border. Mrs. King's hospitality has always been unbounded. The stranger within her gates received a cordial welcome, and it is no less sincere in the palatial new home than it was in the unassuming old ranch house of former years. The big ranch property, with its many unique activities, is always full of interest and fascination to visitors. The army of employees, most of them Mexicans, garbed in their picturesque dress, attract much attention.

Mrs. King is devoted to the section where she has spent practically all of her life. She came here as a young bride with her husband, the late Capt. Richard King, and together they worked and struggled to make headway against poverty and fought roving bands of Mexican thieves and desperadoes. The pleasures and diversions that are usually sought by women of wealth do not appeal to Mrs. King. Her travels have been very limited. Much of her time is spent in reading and, notwithstanding her advanced age, she continues to take an active interest in the management of her vast property. Although a woman of simple and unassuming tastes, Mrs. King has kept up with the march of progress, and has thoroughly modern views on all questions pertaining to the welfare and prosperity not only of her own community, but of the State and nation as well.

Will Manufacture Lignite Fuel Briquettes.

An investment of \$800,000 for a manufacturing plant is proposed by the Lignite Products Co., organized with five locations under consideration in Texas, Arkansas and Louisiana. The MANUFACTURERS RECORD is advised that this company has been organized with officers who include Walker Powell, president, St. Louis, and Henry A. Allen, engineer, Chicago. The company will install a destructive distillation plant using lignite as a base, the carbon recovery to be briquettes for fuel, and the first unit's daily capacity will be 600 tons. Included with the machinery to be purchased by the engineer are electrical generators, motors and steam shovel.



RANCH HOME OF MRS. H. M. KING, KINGSVILLE, TEX.

Slight Decrease in Oil Production for May.

Statistics by the United States Geological Survey as to production and consumption of crude petroleum for May, 1920, are given herewith:

State.	May, 1920.	
	Total.	Daily average.
Oklahoma	8,805,000	284,032
California	8,636,000	278,581
Texas:		
Central and Northern	5,636,000	181,903
Coastal	1,905,000	61,451
Total Texas	7,544,000	243,354
Kansas	3,804,000	122,710
Louisiana:		
Northern	2,852,000	92,000
Coastal	138,000	4,452
Total Louisiana	2,990,000	96,452
Wyoming	1,368,000	44,129
Illinois	935,000	30,161
Kentucky and Tennessee	667,000	21,516
West Virginia	657,000	21,193
Pennsylvania	650,000	20,968
Ohio:		
Central and Eastern	438,000	14,129
Northwest	192,000	6,194
Total Ohio	630,000	20,323
Indiana	78,000	2,516
New York	76,000	2,452
Colorado	11,000	355
Montana	8,900	258
Grand total	36,859,000	1,189,000

The summary of production by fields for May and for the period from January to May, 1920 and 1919, is as follows:

Source of oil.	May, 1920.		Jan.-May, Inc., 1920.		Jan.-May, Inc., 1919.	
	Total.	Daily average.	Total.	Daily average.	Total.	Daily average.
Appalachian	2,488,000	80,258	11,819,400	77,101	12,252,000	81,139
Lima-Indiana	270,000	8,710	1,205,000	7,928	1,444,000	9,567
Illinois	935,000	30,161	4,530,000	29,803	5,328,000	35,285
Mid-Continent:						
Oklahoma-Kansas	12,609,000	406,742	60,352,000	397,053	42,631,000	282,325
Central and North Texas	5,639,000	181,903	27,059,000	178,020	24,207,000	160,311
North Louisiana	2,852,000	92,000	14,100,000	92,763	4,569,000	30,258
Gulf Coast	2,043,000	65,908	9,413,000	61,927	8,425,000	55,795
Rocky Mountain	1,387,000	44,742	6,401,600	42,116	5,641,000	37,557
California	8,636,000	278,581	41,933,000	275,875	42,214,000	279,363
	36,859,000	1,189,000	76,713,000	1,162,586	146,711,000	971,596

Stocks of domestic crude petroleum held on the last day of May by pipe line and other marketing companies aggregated 124,633,000 barrels, a decrease of 358,000 barrels from figures of April 30.

Estimated total consumption of domestic and imported petroleum, including exports (in barrels)—sum of domestic production and gross imports plus decrease of stocks or minus increase of stocks:

	March, 1920.	April, 1920.	May, 1920.	May, 1919.
Total	43,926,000	42,861,000	43,971,031	35,141,001
Daily average	1,416,967	1,428,700	1,418,430	1,133,581

The daily average production of 1,189,000 barrels was slightly less in May than in April, but, as was explained last month, the unusually large production credited to April was due to withdrawal from producers' stocks of a considerable amount of crude oil not heretofore credited to production. The daily average production for May exceeded the daily average for March by approximately 12,000 barrels. During May, Texas led in increased production, there being an advance in the daily average rate in the northern and central districts of more than 13,000 barrels. Increases are also recorded for Oklahoma and California. A slight increase in production in Kentucky and Tennessee and a decrease in the other Appalachian States advanced Kentucky and Tennessee over Pennsylvania and West Virginia. From January to May, inclusive, 1920, the United States produced 30,000,000 more barrels of petroleum than in the corresponding months of 1919.

Pipe line stocks continued to decrease, and, as in previous months, the main losses are recorded from California and the Gulf Coast. The losses were in part counterbalanced, however, by a gain in stocks of Mid-Continent oil. There was also an increase of Mexican petroleum held in storage in the United States by importers.

Imports during May of 6,965,000 barrels (all but 1092 from Mexico) are the largest on record for any one month, and from January to May, inclusive, amounted to more than 11,000,000

barrels in excess of imports for the corresponding months of 1919.

The apparent consumption of crude petroleum during May amounted to 43,971,000 barrels, which was about 9,000,000 barrels more than for May, 1919.

Interesting New Developments in Oklahoma Oil.

Oklahoma City, Okla., July 8.—[Special.]—Some extraordinary things have been happening lately in Oklahoma oil fields. Not the least of these was an increase to 56,000,000 cubic feet daily of the gas production of the Magnolia Petroleum Co.'s well near Roberson, in the southwest part of Garvin county. Before the gauge showed that figure the well already had discounted records of other wells at the approximate depth of 1390 feet. Since the well was completed the Magnolia put tools back into its first well in that district, a short distance to the northeast of No. 2, and drilled it into the big productive sand of the second. It promises to equal the second in gas output. Operators were disappointed that this well did not make oil and more disappointed in finding that the gas is dry.

This is a passing disappointment, however, for it rarely happens that a paying oil pool is not the source of so much gas. Tests will be drilled over an area eight to ten miles square in an effort to locate the oil pool.

Another extraordinary thing was the increase in production of the new well of the Maramec Oil & Gas Co. at Maramec, Pawnee county. The well, which was a wildcat six miles from production, was completed into a sand that made 300 barrels with a strong head of gas. Within 10 days the output had more than doubled. Gradually the gas grew stronger, until oil men estimated it had

four times the power it had originally, and a new gauge of the well showed it to be making over 1000 barrels daily. The tools were not reinstalled after the 600-barrel gauge, hence the well has gradually drilled itself in, to use an oil-field expression.

Apparently the big companies sensed the possibilities of this sand, and they knew that two important sands lie beneath them. The Roxana Petroleum Co. of St. Louis paid Frank Buttram, Oklahoma City operator and geologist, \$250,000 for a lease assignment to a 40-acre tract lying just east of the well, and it paid J. K. Wells of Oklahoma City \$1000 an acre for a 20 acre tract a little farther removed. Buttram retained a one-tenth royalty in deeper sands, the Roxana contracting to drill to these sands in due time.

Another bit of important information to the oil fraternity comes from the southwestern part of Beckham county. It is reported, and the report is sanctioned by C. W. Shannon, director of the Oklahoma Geological Survey, that the well being drilled there by Charles H. Taylor and associates of Oklahoma City has passed out of the red-bed area at about 1200 feet. A great deal of the western part of the State is in the red-bed area, and much of it has been condemned by geologists.

The Beckham report is specially interesting to certain geologists who have traced an important structure from the Burkburnett district in Texas across Western Oklahoma to a conjunction with the big gas-producing area near Amarillo. This theory has such strong backing that the Lone Star Gas Co. of Texas, the Pierce Oil Corporation and probably some others of major concerns are drilling wild-cat wells near the supposed backbone of the structure.

A well drilled by the McMan Oil Co. of Tulsa in the new Duncan district of Stephen county having been drilled two feet into the sand made 10,000,000 cubic feet of gas and about 50 barrels of oil initially. Drilled a little deeper the gas pressure increased

and the oil production ran up to 1100 barrels daily. The well is northeast of the Empire well, which established the pool and extends the producing territory a half mile. Farther northeast the Concord Oil Co. of Oklahoma City has a well that is acting similarly to the McMan well. It is to be drilled deeper, and shows for as good a well as the McMan.

Many Oklahoma oil men are taking leases and not a few of them drilling wells in East, Southeast and South Texas. In East Texas they are seeking possible extensions of the fields of Louisiana and the old pool in the vicinity of Beaumont. They are playing the coast structure from Beaumont to the Mexican border. Wells are drilling in over 100 counties. The Empire, one of the chief wild-catters, is supposed to have found an important pool in Zapata county, 100 miles from a railroad.

Among substantial Oklahoma City concerns going into these regions are the Locorgan Oil Corporation, which has started a test of a block of 13,000 acres in Hopkins county; the Franklin Oil Association, which has started a test on a block of 12,000 acres in Robertson county; Davis & Younger, who are drilling on 30,000 acres in Morris and Upshur counties; Louis A. Macklanburg and associates, who are to drill on 16,000 acres in Bowie county; Coffman, Little and associates, who have found a sand making oil in Live Oak county; W. M. Freeman and W. R. Wallace of Paul's Valley, who are operating in several counties south of San Antonio.

Development Activities Continue on Extensive Scale in Texas—Some Falling Off in Total Production of Light Crude Oil.

Austin, Tex., June 24—[Special].—The shallow oil fields in the extreme eastern part of Zapata county, bordering the Starr county line, 35 miles south of Hebronville, and within 25 miles of the Rio Grande, is being rapidly placed on a commercial basis. The Webb-Zapata Oil Co., which has its principal office in Laredo, is now making daily shipments of the product of its well to Hebronville by means of tank trailers hauled by tractor engines. The oil is of lubricating variety and sells for \$6 a barrel at the railroad here. The most remarkable feature of the shallow field is the low cost of drilling wells. It is stated that an ordinary water-well drilling rig is used and that a well may be drilled in two days at an average cost of less than \$200. The oil sand is found at a depth of 160 to 180 feet, and the capacity of the wells averages five barrels a day. At this time the company has about 12 wells, each operated by an independent pump. It has just received upon the ground the machinery and equipment for a large power pumping plant, which will be installed and used to pump any number of wells up to 200. With this plant completed the company plans to engage in an extensive drilling campaign, and as soon as an output of a few hundred barrels a day is reached a pipe line to Hebronville will be laid.

The Garcia Oil Co., which is composed of St. Louis (Mo.) and Hebronville men, has leased a large tract of land just south of the holdings of the Webb-Zapata Oil Co. and have let the contract for drilling 25 shallow wells. Another company in the same section has 28 wells finished and is drilling others so as to bring the total number for the first pumping unit up to 100 wells.

While no deep test well has as yet been put down in this field, standard rigs are on the ground, and drilling of these deep wells will be started soon, it is stated.

Although there is a slight falling off in the total production of the light crude oil fields of Texas as compared with the output of the early part of June, there is no decrease in development activities. On the contrary, reports from the different fields show that new locations are being made on a more extensive scale now than at any time in the history of the industry. It is pointed out, however, that many of these new wells are being drilled in territory outside of the proved areas, and the percentage of producers is not as great as it was formerly. It is noticeable that the bringing in of wells of 3000 and more barrels a day does not create the stir in oil circles that it did a few months ago. An instance of this kind occurred only recently, when the well of the Plateau Oil Co. near Breckenridge showed a flow of 8000 barrels a day. This well started off with a production of 4200 barrels, and upon being drilled six inches deeper into the sand its output was increased to 8000 barrels.

The Montreal Oil Co. and the Gulf Stoker Oil Co., both located in Stephens county, each has phenomenal production, being around 12,000 barrels a day. No big rush of speculators and investors to the scene of these discoveries has taken place. Not many months ago had wells of this class been brought in, thousands of men would have rushed to the scene.

It is stated that lease values are keeping up remarkably well. There has been no apparent depreciation in the cost of leases in proved territory. Naturally, the value of a lease depends upon its proximity to production. In proved territory such leases sell readily at \$10,000 an acre, falling in a graduated scale to a few dollars an acre as the wildcat territory is reached.

Much significance is attached to the bringing in of a 200-barrel well near Sipe Springs, in the Eastland territory, by the Atlantic Producing Co. This oil sand was encountered at a depth of 2581 feet. It is the first well to strike oil at that depth, all of the other producing wells in Sipe Springs field being of shallow depth. Oil operators regard this discovery as meaning that a deep producing sand exists there. It is expected that the well will show a big increase of production when drilled deeper into the sand.

The Texas Company, the Humble Oil & Refining Co., the Unit Oil Co., the Occidental Oil Co., the Sapulpa Oil & Refining Co. and the Fensland Oil Co. are among the larger concerns that have recently brought in good wells in Eastland and Stephens counties.

The Magnolia Petroleum Co. is constructing a large field operating plant in the Sigler district, a short distance south of Vernon, preparatory to beginning an extensive drilling campaign. The Texas Company, which has 11,000 acres under lease in the same district, is also arranging to drill a number of wells thereon. The Sigler Oil Co. has two new wells under way near its discovery well. All told, there are at this time 20 rigs up in the Sigler district.

In the heavy crude petroleum fields of the Gulf Coast region there is also reported a slight falling off in production. In the west Columbia and Hull fields several wells have been completed recently, but all of them were of a disappointing output, ranging only from 100 to 300 barrels a day each. The Gulf Production Co. just brought in a well of 250 barrels daily capacity at Blue Ridge. Several other wells are being drilled in that field.

The Monarch Oil & Refining Co., the Humble Oil & Refining Co., the Empire Gas & Fuel Co., the Republic Production Co., the Gulf Production Co., the Texas Company, the Crown Oil & Refining Co., the Atlantic Oil Producing Co., the General Oil Co., the Sun Company, the Southern Petroleum Co. and the Gulf Coast Oil Corporation are at this time doing a large amount of well-drilling in the different fields of the Gulf Coast territory, and it is expected that within the next several weeks many wells will be finished and the production greatly increased.

Oil Showing Reported in North Carolina.

Raleigh, N. C., July 5.

Editor Manufacturers Record:

We are all excited down here over unexpected oil discovery.

While drilling for water on a farm about three miles from Apex and 15 miles from Raleigh, Mr. D. H. Wallace, a well-known prosperous tobacco farmer, struck oil at a depth of 110 feet. At first he paid very little attention to the slimy substance encountered, went off half a mile, drilled another, and at about the same depth the same stuff ruined the second well. It was then learned that on this farm no good drinking water had been obtained as far back as the oldest inhabitant could remember. Then everyone seemed to remember that on the surface of the waters in the branches and small streams in that section they had frequently seen an oily scum which now is known to have been oil.

Mr. Wallace considered the farm ruined and offered it for sale for \$30,000, it being in one of the best tobacco sections of the State. The proposition was accepted by six citizens, who each took a \$5000 interest, had samples analyzed by the State Chemist and the chemist at the A. & E. College in West Raleigh, which reports showed it to be a high-grade oil with about 30 per cent gasoline.

Ample capital has been raised or subscribed by surrounding farmers and business men, and the company is ready to go ahead with drilling as soon as they can "expert" the land and ascertain the most favorable drilling site and get the machinery or contract with an experienced driller.

When the books were opened for subscriptions this morning, one of the first subscribers was the discoverer, Mr. D. H. Wallace, who had just received \$30,000 for his farm.

H. B. HARWARD.

Will Sink Deep Test Well Near Magnolia, Miss.

Magnolia, Miss., July 8—[Special.]—The Gulf Drilling Co. of Louisiana has completed the installation of heavy drilling machinery preparatory to boring a deep oil well south of here.

Oil interests and geologists all over the country have evinced great interest in this operation, as the outcome of the Magnolia deep test will be regarded as largely determining the existence of oil pools east of the Mississippi River.

It is estimated that a dozen companies have leased more than 150,000 acres in Southern and Southwestern Mississippi, and are holding their development projects in abeyance awaiting the results of the Gulf Company's Magnolia No. 1.

Million-Dollar Refinery for Oklahoma.

Henryetta, Okla., July 7—[Special.]—Negotiations have been completed which will give Henryetta a million-dollar refinery. Organized as the Cogswell Refining Co. and by John F. Cogswell as president; P. M. Cogswell, secretary-treasurer, and T. T. Martin general superintendent, with Canadian and Kansas City connections, a 12-acre factory site has been secured through the Henryetta Chamber of Commerce. The erection of the plant will begin at once.

The refinery buildings known as the skimming plant will be first erected for the manufacture of gasoline, naphtha and kerosene, and be followed by a compounding plant for the production of high-grade lubricants, paraffine, etc., both plants of which it is expected will be completed and in operation by January 1, 1921.

Negotiations are being carried through for pipe-line connections in the Henryetta oil field within the next 30 days, at which time the company expects to begin the marketing of crude oil.

This is the second largest industrial enterprise secured through the office of the Henryetta Chamber of Commerce since February. It is also expected that negotiations will be closed within the present month for three glass plants and a reduction plant, with combined capitalization aggregating several million dollars. The situation has compelled the organization of a building association to erect homes for the large number of employes who will follow the coming of these new Henryetta industrial institutions.

Why Do You Advertise When You Are Behind in Deliveries?

(From the Graphite.)

This seems to be a very natural question, and the answer involves the discussion of a vital policy of this business, a policy that is fundamental.

If we were building a business for today our policy would vary from day to day with the temporary changes with which every business has to contend.

But we are building for the time to come and we hope that this business will become many times greater than it is today. Without the proper foundation it would undergo violent changes dependent upon temporary national, local or even imaginary conditions.

If we should permit ourselves to become inflated with self-confidence when business conditions are favorable, restricting our selling and advertising activities, and go down in the dumps when conditions are not so favorable, this business would not amount to any more than the existing conditions would make of it.

We say right now, without reservations, that we hope, regardless of how aggressive and efficient our manufacturing department may be, that it will never be able to catch up with our selling organization.

If our efforts should be halted in the middle of the road in times of liberal buying to wait on the manufacturing department, there might come a time when the manufacturing department

would have to suspend operations while waiting on the sales organization.

With such a policy we would be running around in a circle, disorganizing one day and reorganizing the next.

The greater the demand for our product, the quicker the turnover for merchants; and the more frequent the turnovers, the larger is the volume of profit.

In this business advertising is a sales policy—the same as our policy maintaining a sales organization—and we might as well consider the elimination of one as the other. Neither will be eliminated, as this business needs both if we are building for the future.

We hope the idea will never creep into this organization that there will be any let-up in aggressive methods, which might suggest that when business is good there is not occasion for work, and when business is poor it is too hard to get.

We constantly have in mind that the American people are much more concerned in their own affairs than in ours, and if we should restrict our selling and advertising activities they will begin to forget us—and this would be our fault.

We are going ahead with the idea of increasing the present momentum in favor of our goods; and if conditions should turn face about, our dealers and ourselves will be in a better position to hurdle obstacles than if we originated a policy for each condition as it arose.

Wheeling Steel Corporation Announces Officials.

Organization of the Wheeling (W. Va.) Steel Corporation has been effected with the election of tentative officials, who will probably be permanent, as follows: Alexander Glass, chairman of directors; A. H. Woodward, vice-chairman; I. M. Scott, president; Andrew Glass, D. A. Burt and W. H. Abbott, vice-presidents; D. A. Burt, secretary-treasurer. Executive committee as follows: Alexander Glass, A. H. Woodward, I. M. Scott, A. C. Whitaker, C. R. Hubbard, R. C. Kirk, J. J. Holloway and E. C. Ewing.

This is the \$100,000,000 company recently announced as to be formed for merging the Wheeling Steel & Iron Co., the Whitaker-Glessner Company and the La Belle Iron Works. Plans for this enterprise were detailed recently by the MANUFACTURERS RECORD, the properties including the following: Plants at Wheeling, Beech Bottom and Benwood, W. Va.; Martins Ferry, Steubenville, Yorkville and Portsmouth, Ohio; warehouses and stores at New York, Philadelphia, Chicago, St. Louis, Kansas City, Minneapolis, Chattanooga and Richmond; six furnaces with annual capacity exceeding 1,000,000 tons iron; Bessemer plant exceeding 225,000 tons; tube mills of 225,000 tons; tinplate works, 2,200,000 boxes; skelp mills exceeding 175,000 tons; finishing plants, 300,000 tons; 21 open-hearth furnaces, 800,000 tons; blooming mills; bar mills; hot sheet and plate mills; coke ovens and regenerative ovens for recovering tar, gas, sulphate of ammonia and light oils; benzol, toluol and solvent naphtha works; 18,000 acres coal land; iron-ore lands estimated to contain 15,000,000 tons; limestone quarries, etc.

Bessemer Steel Products Plant Completed.

From 25 to 50 tons of open-hearth steel castings is the daily capacity of a plant which the National Steel Products Co. has completed at Bessemer, Ala., manufacturing guard rails, switch point adjusters, easer joints, excavating rails and general steel castings. There are four buildings, costing \$100,000 and including a 200x50x35-foot steel foundry, 50x30-foot pattern shop and supply-room, acetylene-house and office building. This plant includes five-ton acid open-hearth furnace built of steel frame and silica brick, said to be the first oil-burning furnace introduced into the Bessemer district, designed and constructed by the McLain-Carter Furnace Co. of Milwaukee. Since this furnace was ordered several large corporations of the Birmingham district have installed oil-burning systems for steel plants. The National plant manufactures steel castings from 1 to 10,000 pounds weight. Its machinery is all driven by electric power.

Hither and Thither

MEN WHO PREFER IDLENESS TO WORK—NEW YORK'S SELFISH FIGHT AGAINST THE WEST AND THE SOUTH.

By F. W. FITZPATRICK, Architect, 58 East Washington Street, Chicago.

My suggestion, in a recent issue of the *MANUFACTURERS RECORD*, that we bring in a lot of Chinese, not immigrants, but contract labor, to tide us over the present appalling dearth of hands to do the hard, rough work, especially on our farms, seems to have struck an irresponsible chord. At least, judging by the number of letters I've received since that issue's appearance, some questioning my morals, others my sanity, and still others my Americanism.

I haven't a blessed word to add to what I wrote in that communication, nor do I care to qualify it in any way. The conditions are evident to any thinking man, conditions that if not soon ameliorated will mean still higher prices for food and that some of us will go hungry. Bringing Chinese in is not desirable; under normal conditions I'd think it criminal, but it is the one quick expedient that is possible, a sort of last resort that we would do most reluctantly. Heaven knows we didn't go into the war willingly; it was something we simply had to do or get our necks twisted; so with this, like it as little as we may, it something as effective and speedy will have to be done as a peace production measure, just as we went into the real scrap as a war measure.

That the rank and file of our men are not keen on hard work and yet seem to thrive is pretty well established in my mind. I haven't time to make any extensive or exhaustive survey of the matter, but did take an afternoon off the other day just to look around a bit at the palpable, manifest signs of loafing among our "leisurely class," merely a wee sketch, but highly illustrative withal. This is in Chicago, right near my office in the Loop. In one movie I counted 340 men, 184 in the next, 210 in another, and I venture to assert that there was an average of 100 in each of our something over 200 movies and vaudeville. All this was around 2 in the afternoon. Then every pool hall I saw was comfortably filled with young chaps who showed every evidence of having been there quite a while and of being wound up for many hours more.

Then a walk in Grant Park and around the Field Museum showed me the benches well filled. Not with hoboes, tramps and bums, but fairly well-dressed, comfortable-looking fellows. In one patch, near the Museum, I counted 265 men reading papers, sunning themselves and chatting.

I was impertinent enough to ask several, many of them, some rather personal questions, but did it well enough so that no one told me to go anywhere or evinced any desire to commit mayhem. Some were out of a job and conceded they hadn't looked very hard for another—yet. Three rather proudly informed me they lived at "home" and only worked occasionally. Twenty—the major part of those I spoke to—said they had jobs, but, by heck, they took a day off once in a while to rest up a bit. Two of the twenty had been resting three out of the six last days and four said they needed at least one day and a half-day Saturday, and, of course, Sunday of every week to rest up!

Chances are that you'll find the same conditions in every other city. What are you going to do? Take all these men by the scuff of the neck and force them to work on the farm, or let our production get so low they'll have to go to it?

Let those who went up in the air on reading my Chinese matter read it over again, look around at labor, examine their own consciences, ponder on the subject a while, and it's dollars to doughnuts they'll wind up by agreeing with me.

One thing about all this "going to pot" stuff we hear and talk anent high prices, ruin and what not that we seem to lose track of is that when other countries have to pay an enormous exchange in buying from us, and have to buy from us and therefore are sending out of the country their actual gold or its equivalent, it is one thing, and our paying each other high prices within the country, merely taking money out of one pocket and putting it into the other, is a horse of an entirely different complexion. It's just a merry whirligig, a sort of ring-around-a-rose, and can last indefinitely without doing an awful amount of harm. Moreover, it will adjust itself eventually. So there's no use turning hand-springs about it and tearing out our few remaining hairs, albeit

it is a bit provoking to note that in this circulating some of us seem to stick to more of the simoleons than do others of us.

Yes, our housing problem is a difficult one and right with us. One thing sure, we'll fizzle it if we do anything of a "charitable" nature or plant great batches of houses, whole communities under some form of central management. Our people are not keen for that sort of thing. They don't take to communal things or having affairs all fixed for them. They run to individuality. The real plan, it would seem to me, would be to facilitate a man's borrowing a fair sum at reasonable terms and building where he wants to. Doing things as they are generally done now, but making it easier and keeping the sharks out of it.

The lending organizations should be protected in every way—mortgages, architects who'll plan within the limits etc.; organizations that don't want to skin the workman and make 30 per cent on their turnover.

One man may want to build away off in the country where he can garden more or less extensively; the next one wants to be near Sister Sue; the other among a bunch of friends. Few, except newly-arrived immigrants, care to be herded into houses, however nice, hundreds of like pattern, just like so many soldiers, row 'em row.

And it's not always the workingman who gets it "in the neck," so to speak. Some years ago a great corporation, a client of mine, went daffy on this same housing problem. It built comfy cottages galore all around its several plants, and sold them at easiest of terms to its men. It was really a snap for the men. The district between these houses and the more crowded part of the towns soon built up solidly, too.

Well, the war came on and those men, the homesteaders, were beguiled into other work, war stuff, that paid far more than this non-war corporation could afford. And since then still others have gone into automobile and such highly-paid work. So that of the hundreds of houses this company built about its works for its own men, a negligible few are still in the hands of its employees. Their men have to go miles to their homes. Suggest housing plans to this company if you want to hear some choice comments on "loyalty" and such!

Talking about factories and plants: Aren't we going just a bit too far in some of our systematizing, recording, efficiency work? I'm a great believer in a certain amount of it, but don't we run the risk of having the tail wag the dog? I've been in factories of late where, really, there was so much system, so many records, that it seemed to me the output was a mere incident to the recording, instead of the latter being but an aid to the easy handling of the former.

The Government some years ago took a notion in that direction. The principal purpose there, however, it was quite evident, was to provide as many places as possible for cousins, henchmen, etc. Yet it had to be logically proven necessary and all that. At the time I happened to be in Washington in charge of some of the Government's most important constructions, and the confounded red tape irked me. Argument against it was futile, it was a sacred rite, and I was deemed something of an iconoclast, a Bolshevik for kicking at it. Lyman J. Gage was Secretary of the Treasury then, a fine old gentleman, but inclined to go along the line of least resistance, and since he had found those rules and regulations and five different systems of bookkeeping and forty-seven men to do one man's work the order of the day, he wasn't keen on changing things too drastically. He had a saving sense of humor, however. So one day we happened to need a new broom in my office. The Treasury got its brooms at 38 cents just then. Thinking this as good an illustration as any, I put an accountant onto that broom, as it were, and from the time I had signed the order for it to the time it began to sweep it cost the Government \$4.63 in vouchering, countersigning, approving, cataloging, etc.; the foolish red tape of it. I showed the Secretary this data, most seriously done up in proper official lingo and such, and from that day until he resigned it was tacitly understood that my office was exempt from the

regular order of flub-dub. We were busy doing that for which the office was organized and at less outlay than that sort of work had ever cost the Government.

By the way, there's one bureau that was organized during my time under the Treasury, but now of the Department of Commerce, that has done real wonders in helpfulness to manufacturers, builders, chemists, the producers of the country, and that's the Bureau of Standards under Dr. S. W. Stratton. At first he had a stenographer and one room, and his function was to standardize weights and measures, chiefly keeping the market folk from false bottom pecks and such measures. Today the bureau is an institution covering acres, with half a dozen big modern buildings and 300 or more real scientists, experts, chemists, doing practical, helpful, wonderful work. Its help to the building trades alone would justify the money appropriated for it, but it is doing really important work in the electric field, all sorts of manufactures.

It's mighty interesting to note the progress made in our old Government, after all, at least in some of the bureaus. Years ago virtually the entire scientific service was academic. The scientific bureaus prepared ponderous tomes, wonderfully illustrated, describing the whiciness of the whereof in 60,480 words that no one ever read, just using up paper and cluttering the mails. Today the Bureau of Standards, the Reclamation Service, the Geological Survey, the Good Roads Service, Public Health and all such bodies do blessedly little academic, useless flub-dub; they are centralized, highly specialized, scientific organizations doing for all our big industries the experimenting, the testing, the standardizing and indeed the discovering each industry used to try to do by itself and with more or less imperfect means.

Baltimore must sympathize with us of the West in our fight to get from under the yoke of old New York in the matter of deep water from the lakes to the sea. Every time Baltimore, or Boston, or Charleston, or New Orleans has wanted anything done to improve their ports New York has tried to block it. She's played dog-in-manger with all of the country. There should be but one port, and that New York's; there should be but one great city, and that New York, and but one boss, and that New York.

We of the West have hammered for years to get an outlet to the sea and make all our inland lake cities, Buffalo, Cleveland, Detroit, Chicago, Duluth and Port Arthur seaports open to the commerce of the world, but every year we've been blocked in Congress by New York. Still we'll have the St. Lawrence route available within five years, spite of New York, but we'll have to thank Canada for it. She's not afraid of New York and is going right ahead with the work. If she does it alone she'll naturally recoup herself from our commerce by tolls; if we, as we decently should, share the expense, then it's open water to us, and that is the effort we should make, and right now, while the investigating commission is at work on the subject. That waterway would relieve the railway congestion, would facilitate good distribution, cut the costs of it, help us in our fuel problem, give us a tremendous water-power: it would make the Middle West and yet not do a thing to New York, who is just nasty about it, fears anything that looks like competition and wants to choke early in its career anything that might grow up a rival.

New York is unbearable; her fatuous conceit and egotism will make even a woolly Western worm turn. She's owned us for years, dictated to us, ridden us or sat with her hoofs on our well-padded necks. The West has been her vassal, her bond-slave, her puppet. She has dictated to us, told us what we should have and when, and, of course, kept the lion's share to herself. The seigniorage has been worth while. Then when we have ventured forth and tried to get something for ourselves her opposition has been great and usually successful.

Once in a while she slips up a bit and is grievously pained that we should forget her manifold kindnesses. She threw forty duck-fits when the Federal Reserve Bank matter was on the tapis. Without it she could precipitate a panic almost at will, gobble all the gold and squeeze us a-plenty; with Federal Reserve banks she can't. We're more or less independent of her, and lo, she doth gnash her teeth mightily.

Says a great man of New York: "The attitude of Chicago shows New York ought to oppose it. The West is ready to spend \$500,000,000 to make Chicago a seaport. I do not want New York to be beaten by Chicago." And then the gentleman urged

the commercial bodies of New York to organize to combat the menace that threatens the port of New York.

New York will use bluff, cajolery, corruption, anything to win her point and to stand off that opening of our inland ports to the world. She out-shylocks Shylock, in that she has no right whatever to filch us other than her established precedent of having always done so, but she'll insist upon bleeding us with tolls, tares and taxes; if she can't for 10 years more, then one year; if not that, why, she'll tear her shirt to keep up the good work she had done for even 10 days.

Says Charles N. Chadwick, chairman of the New York delegation of the National Rivers and Harbors Congress: "New York will derive no benefit from such a canal, but would suffer a diversion of some of its commerce thereby.

"The seaport idea of the project has a fascination for inland cities, such as Chicago, Duluth, Detroit and others (small wonder, too). The subject should be approached with a broad mind, recognizing that the interests of the country as a whole (meaning, of course, the most selfish interests of New York) must be paramount to the interest of any particular section thereof."

And then cometh Henry W. Hill, president of the New York Waterway Association, who avereth: "The Middle West will put this thing through if it can, no matter what New York may say of the matter."

In this matter of lakes to the sea she's opposed to any action for the simple and sole reason that it would free us from her overlordship of our affairs, free us from our slavery to her. She sits there at her port much as the robber barons of old who levied upon all who passed that way.

Everything going to Europe pays that toll to her direct and through her seneschals or henchmen, Buffalo and the New York railways, again. All our lake freight to foreign ports is rehandled at Buffalo, railroaded or Erie-cannaled to New York, rehandled again and shipped abroad, a tax that is enormous, senseless, criminal.

It's our own fault if we let another year go by without favorable Congressional action and actual work begun toward our share with Canada in making the St. Lawrence route practicable for Canada's and our ships from our home ports to the sea.

It's concerted action we need, our 16 States combined. Chicago should take the lead. Our delegates should be "instructed." No more fine technical, ethical points. We've got to go after New York hammer and tongs, bombard Congress, threaten it, make the matter a campaign issue, hang it, get it through, if need be, by the same methods as New York has used to keep us from getting it through.

Letters and telegrams to Congress are the most effective weapons the layman can use. Just write Mr. Congressman that you are in favor of the St. Lawrence route, and now. It will have its effect. Then the big newspapers, the shipping interests, the merchants, the producers, the shippers, the trades-unions, by getting together, pooling, can, under skilled management, do the rest. But it all needs public approval, the backing of the people. Why, just to mention one advantage, at our lake shipyards we can build ships cheaper than anywhere else in the land, but without a means to put them to sea. What's the use of that advantage?

We of the West bespeak Baltimore's and the South's help. Unbroken bulk cargoes from Duluth and Chicago, raw materials laid down on Baltimore's docks ready for its factories and mills mean much to it and to the entire South. Likewise putting the products of the South into the Middle West via an all-water route at one-third the freight charge of the railroad will also mean much to the South. Give us a hand!

Mobile Yards to Build Fleet of Oil Barges.

Mobile, Ala., July 8.—[Special.]—Murnan Shipbuilding Co. has received contract to construct a steam towboat and 12 barges for the Mexican Oil Co. These barges will be used for the transportation of oil from the Mexican oil fields to Tampico. The towboat will be constructed similar to the specifications of those now in use on the Warrior River, and each barge is to have a capacity of 7500 barrels of oil. The barges will have 175-foot length, 40-foot beam and 8½-foot depth of hold.

Decrease in Coal and Coke Production.

A decrease of 3 per cent in production during the week ended July 3 is attributed by the United States Geological Survey to diminished output on Friday and Saturday, on the eve of the Fourth of July holiday. The total production of soft coal, including lignite and coal coked at the mine, is estimated at 10,225,000 net tons, a decrease, when compared with the preceding week, of 305,000 tons. The output was, however, larger than that of the week of June 19, before the service order granting complete priority for coal mines in the use of open-top cars went into effect.

Production during the first 158 working days of the last four years has been as follows:

1917.....	278,000,000	1919.....	218,000,000
1918.....	288,000,000	1920.....	262,272,000

The year 1920 is thus 15,750,000 tons behind 1917 and 26,750,000 tons behind 1918, but is over 44,000,000 tons ahead of 1919.

The production of anthracite, like that of bituminous coal, declined during the week ended July 3. Loadings by the principal carriers totaled 33,678 cars, a decrease when compared with the preceding week of 1752 cars, or 5 per cent.

Following the course of the production of both anthracite and bituminous coal, the output of beehive coke declined the week of July 3. The total production for the country is estimated on the basis of railroad shipments at 378,000 net tons, a decrease of 6.9 per cent when compared with the week before. The decline affected all the Eastern districts. In the West little change was reported. The cumulative production from January 1, 1920, to date is 10,910,000 tons, as against 9,773,000 tons during the corresponding period of 1919.

Community Work to Be Undertaken by Alabama Company.

Birmingham, Ala., July 7—[Special].—Community houses, which will furnish moving-picture shows at stated periods, pool-rooms, dancing pavilions, pressing shops and other conveniences, will be provided at the various mining and manufacturing plants of the Alabama Company in the Birmingham district. E. N. Rich of Baltimore, president, has authorized the plans, and W. F. Shillito will have direct charge of the work. At two or three places lodgerooms will be fitted up for the employees. A study of the conditions since welfare plans have been started here shows that there has been 100 per cent improvement in the shifting of labor; that a better feeling exists between the employees and the company, and in the long run better results will be obtained all around.

The Tennessee Coal, Iron & Railroad Co. some years ago pushed its welfare department, and is still increasing its work. An appropriation of \$25,000 was made recently by the Tennessee Company toward a public swimming-pool being constructed by the city at Ensley, which will be accessible to the many employees of the big corporation.

Adding 6000-Kilowatt Steam Turbine Capacity.

In connection with various other big additions previously announced, the Riverside & Dan River Cotton Mills of Danville, Va., will install four new boilers and two new 3000-kilowatt steam turbines. This machinery is an addition to the steam plant at the Riverside division in connection with the company's enlargement of that mill. Space for the new equipment is being provided by an addition to present building, with all the boilers and electrical machinery ordered. The power will be transmitted directly into the mills. This auxiliary steam and electric plant will develop 6000 horse-power and cost about \$400,000. Lockwood, Greene & Co. of Boston are the engineers.

Mr. Meldrum Succeeds Mr. Potter.

Norman S. Meldrum has been elected president of the Carolina, Clinchfield & Ohio Railway to succeed Mark W. Potter, who recently resigned to become a member of the Interstate Commerce Commission.

New Texas Agricultural Sulphur Plant.

Referring to his corporation's plant at El Paso, H. M. Tippet, secretary of the Texas Sulphur Co., home offices at Orange, Tex., writes to the MANUFACTURERS RECORD:

"The company has completed construction of its agricultural sulphur plant at El Paso, cost approximately \$150,000, and will start operation September 1. Prepare sulphur for agricultural purposes, for which there is a great demand at this time by the alfalfa growers of the Northwest, who claim phenomenal results in increasing their yield of hay by using sulphur as a fertilizer. It is reported that one application of sulphur is effective for four years, giving a return of an additional ton of hay per acre per annum, and that the use of sulphur has decreased the alfalfa growers' fertilizer bill about 75 per cent.

"The Texas Sulphur Co.'s mine is in Culberson county, Texas, the sulphur occurring in a soft-rock formation outcropping at the surface of the ground, permitting mining with a steam shovel. A fleet of five-ton Mack trucks and trailers, the first unit of which has been delivered at the mine, will transport the ore from mine to railroad for shipment to the plant at El Paso."

Southern Textile Exposition to Be Held in October.

The board of directors of the Southern Textile Exposition announce that the fourth exposition will be held in Greenville, S. C., October 18 to 23, 1920. As heretofore, the exhibits will be housed in Textile Hall, which was especially erected by the Exposition Company for this purpose.

These expositions, which are held in the South approximately every second year, serve to bring to the direct attention of mill executive and operative officials the latest improvements in machinery, equipment and supplies for cotton manufacture.

The officers of the exposition are: President and treasurer, Wm. G. Sirrine; vice-president, John A. McPherson; secretary, R. S. Huntington; general manager, F. M. Burnett.

Alabama Coal Shipped from Mobile for European Port.

Mobile, Ala., July 12—[Special].—A new field for export bituminous coal from Alabama through the port of Mobile, was opened with the sailing of the steamer Sahale for Rotterdam this week. About 3500 tons of coal was taken by the Sahale.

Shipments of fuel through this port to the West Indies and South American points are common, but the shipment to a European port has never before been made.

The shipment is considered final recognition that Mobile port is the most logical outlet for export coal from Alabama.

Building \$500,000 Flint Glass Factory.

Within 50 days the West Virginia Glass Manufacturing Co., Huntington, W. Va., expects to begin manufacturing in its plant now under construction. About \$500,000 is being invested, and the buildings include a 350x80-foot main structure of brick and steel with three other buildings, each 220x50 feet. One and a half miles of siding is being laid. A 500x30-foot loading platform of concrete is under construction and a woven-wire fence 7 feet high will be erected around the entire plant. The buildings have open wooden ends to permit of additional units. The James B. Black Masonry & Contracting Co. of St. Louis is the contractor for the building.

\$10,000,000 Kentucky Coal Land Development

New York and Roanoke capitalists have organized the Kentucky Coal & Coke Co. for developing 70,000 acres of coal land in Leslie, Letcher, Perry and Pike counties, Kentucky. This corporation is capitalized at \$10,000,000 and its officers are: John H. Newton, president; D. D. Hall, vice-president; J. W. Curren, secretary-treasurer; all of Roanoke, Va. The directors include James B. Mahon, Alexander B. Roe and Theodore Peters, all of New York.

THE IRON AND STEEL SITUATION

Low Ebb in Volume of Iron and Steel Business.

Pittsburgh, Pa., July 12—[Special.]—Prospects of there being any labor troubles in the iron and steel industry have practically passed away altogether. Lack of transportation for the products of the industry is more pronounced. The volume of business being placed is at a low ebb. Prices are stationary, except that prices for prompt delivery of steel products continue to sag. Production is slightly increased; accumulations of steel at mills are very heavy. Altogether there is a very confused situation, and it is not surprising that no one in the trade is disposed to make any definite forecasts for the future, even for three months, let alone six months or a year.

Labor Matters.

As was expected when the Amalgamated Association called for another conference with the union sheet and tinplate mills after having broken with them at Atlantic City by presenting demands that it was obvious the manufacturers would never accept, an agreement was reached at the Columbus conference, the men receding from practically all their demands, but securing some slight concessions. The chief point given the men was an agreement to provide a spell man in the case of both sheet and tin mills, the men having asked for two. To provide one man was an arrangement entirely satisfactory to the manufacturers, who felt they might easily gain by doing so, and indeed one mill had established the price some time before on its own initiative. The Amalgamated scales covering the 30 or 35 per cent of the sheet and tin mills that operate as union and referring to the hot mill and tinhouse labor at the plants, and the Amalgamated scale with the iron mills being settled aside from some details, there is nothing on foot in labor matters in the industry.

As to any general organizing campaign being instituted for the iron and steel industry, manufacturers now regard such an attempt as extremely unlikely. As detailed in last report, a compromise was effected between the American Federation of Labor and the Amalgamated Association, whereby the Federation agreed to give the Amalgamated a 51 per cent vote on any committee it might set up pursuant to the resolution adopted at the recent Montreal convention. The judgment of the iron and steel trade now is that this so-called "compromise" was made simply to save the faces of the Federation officials, that no attempt will be made by the Federation to organize the industry and that the Amalgamated Association itself will not make any moves in the matter.

For a long time the manufacturers have had good grounds for believing that the industry could not be organized, but that did not prove that an attempt would not be made. One attempt, indeed, was made, resulting in the strike of September 22, 1919, but the strike was only partial at the outset, and began to lose ground after the first few days. What following the organizers did get was through the preaching of red or radical doctrines and through intimidation. The attempt along such lines having proved a failure, no similar attempt would now be made, nor is it at all likely that the public would stand for as much of that sort of agitation as was permitted last year. Certainly the Amalgamated Association would not stand for any such methods. The association may be slow and not especially progressive, but in its conduct for years past it has given no one the right to deny that it is conservative and eminently respectable.

Steel Production.

The June report of the American Iron and Steel Institute on steel ingot production shows an output by the 30 companies making monthly reports of 2,980,690 gross tons, against 2,883,164 tons in May. The months had the same number of working days, so that the increase in the rate of production is seen to have been 3.4 per cent. Computing by working days and allowing for production not reported, as the 30 companies made 84.03 per cent of the output in 1918, for which year the complete production figures have been secured, the rate of output in June for the whole industry was about 42,450,000 gross tons of steel ingots a year. The low rate of the year was in April, on account of the outlaw rail strikes, about 37,550,000 tons, while the high rate was the

45,200,000-ton rate of March. The half-year's output was at the rate of about 42,100,000 tons a year, this comparing with an estimated output of 33,000,000 tons in 1919 and reported outputs of 43,051,022 tons in 1918 and 43,619,200 tons in 1917, the record year.

Capacity, under reasonably favorable working conditions, lies between 50,000,000 and 55,000,000 tons, and taking 53,000,000 tons for purposes of computation, the rate in the first half of this year was 79.5 per cent of capacity. As a matter of fact, capacity is to be estimated from production, by estimating tonnage lost from various causes, and a fair estimate seems to be that about 20 per cent was lost from coal shortage and transportation difficulties. Little, if any, production was lost from labor shortage or labor inefficiency. There was much of that during the iron and steel strike, that began September 22 of last year, and a little bit afterwards, but in less time than was expected the industry found itself moderately well supplied with labor, and the labor has in recent months shown at least as much willingness and efficiency as is to be expected at this time.

Pig-Iron Production.

Production of pig-iron in June was at the rate of about 37,400,000 gross tons a year, showing an increase of 5.2 per cent over the May rate. As the production of steel increased by 3.4 per cent, it would appear either that the steel works in May were consuming some pig-iron previously produced, or that in June they were piling some pig-iron. The merchant furnaces certainly piled considerable pig-iron in June, being short of cars. Practically all the buying of pig-iron in June represented the buying of deliveries, the purchases being made from furnaces that really could ship. Mere pig-iron lying on the ground is not salable at this time. The consumer may be in great need of iron at the moment, but he has no disposition to cover for the more distant future, since the balance of probability is quite strong that pig-iron on its next important move is going to decline rather than advance. It is disproportionately high now, compared with its pre-war average, by the standard of commodity prices in general, or by the standard of steel prices now existing, or by the standard of cost of production, given a fair supply of raw materials and a fair rate of operating. It is true that some furnaces have costs just now closely approximating the selling price, but the condition is abnormal on account of railroad conditions, and those railroad conditions affect the consumers of pig-iron as well as the producers, and probably even to a greater extent. In other words, one cannot expect consumers of pig-iron to have their hands free in consuming iron when the producers have their hands tied.

Steel Corporation Tonnages.

The United States Steel Corporation reports unfilled obligations at the end of June at 10,978,817 tons, representing an increase during June of 38,351 tons, against increases of 580,719 tons in May, 467,672 tons in April and 389,994 tons in March. The unfilled tonnage refers, of course, to material that has not been shipped, and therefore invoiced, not to material that has not been produced. The large quantities of finished steel the Corporation subsidiaries have in mill warehouses and yards were rolled to customers' specifications, but the orders are not "filled" until the material has been shipped. The Corporation's production in June may be estimated at about 90 per cent of the Corporation's rated capacity, 52,500 tons of finished products per working day, which seems to be quite a conservative estimate and one that the Corporation may some time exceed, if it gets a decent chance to operate. The shipments may be estimated at 75 per cent of capacity, and as the increase in unfilled obligations represented 5 per cent of capacity, the bookings in June may be taken to have been about 80 per cent of capacity, this comparing with 112 per cent for May.

Thus the Corporation's business reflected in some measure the very quiet steel market that has prevailed for many weeks, but it did not fully reflect the quietness, as the Corporation's customers are quite content to place forward business with it, on account of its lower prices, when they are very reserved in placing orders with independents, and buy only what they are certain to require in the near future.

Increased Inquiry Reported from Birmingham District.

Birmingham, Ala., July 12—[Special.]—A little impetus is felt in the buying again in the pig-iron market in the South, and while the greater number of sales recently are in small lots, from a car to 200 tons, the indication is that consumers are coming into the market and looking after needs for the last half of the year. Many inquiries have come to light in the last few days, and in the number are several export offers. Domestic business is being given practically sole attention. New England came to the Birmingham district during the past week or 10 days and bought around 5000 tons of pig-iron to be shipped via Savannah and thence by water to Boston. High silicon iron was sought by some of the consumers in upper New England and were successful in getting a little tonnage. Freight rates by the rail and water route are around \$7 and \$9 per ton, and the standard quotations, f. o. b. furnaces, level \$42 per ton, No. 2 foundry, 1.75 to 2.25 per cent silicon, being paid for the product. Chicago and St. Louis district have been making inquiries again for pig-iron, with indications of a need for considerable tonnage of the product. Negotiations are under way for a large quantity of iron, and prospects are bright that before this month is over much of the probable make during the last quarter of the year will have been sold, and extreme caution will have to be exercised not to oversell. Word comes from another Southern district that a sale or two into 1921 has been made at a price that figures about \$1 per ton above prevailing quotations, but there is no inclination manifested here to take up the coming year's business just yet.

Transportation difficulties are a little improved this week, so far as the raw pig-iron movement is concerned, but there is still apprehension as to the steady supply of raw material. Coal and coke producers are worried about the open-top car orders of the Interstate Commerce Commission, and their protests have been added to that of the pig-iron manufacturers as well as iron melters. Labor troubles in the coal-mining section of the district have spread but little into the iron companies' mines, and so far give no pronounced concern.

Home consumption of pig-iron is again showing improvement as the four big plants of the United States Cast Iron Pipe & Foundry Co. resume operations, after a 10 days' shutdown because of lagging iron delivery and fuel and coke supplies running low. The pipe industry is not enjoying the brisk market of a few months ago, the smaller sizes in pipe being in better demand. This is accounted for in the fact that a number of municipalities and corporations have encountered difficulties in making financial arrangements for extensions, betterments and improvements in their water and gas service, and therefore did not make purchases as was contemplated. Considerable pipe is yet to be made and shipped on old contracts. The high price of pig-iron prevents the making up of much more stock than the immediate demands require. In sanitary pipe there is no deflection in the demand or production. The Kilby pipe and fittings, North Birmingham, one of the new sanitary pipe plants, is about finished, and will shortly be in full operation. The foundry portion of the industry has been in operation now for some days. This industry is a subsidiary of the Kilby Frog & Switch Co., and castings are being made for it. Knox Conville, of the Birmingham Pipe & Fittings Co., erecting a sanitary pipe plant at Gate City, in the northeastern portion of Greater Birmingham, announces that the new industry will be completed in the very near future and will go to melting iron just as soon as possible. Other pig-iron consuming plants of the district, including the American and National cast-iron pipe plants, Stockham pipe and fittings plant, foundries and machine shops galore are all keeping up the pace which was set some time back, and the requirements in pig-iron are considerable.

Figures as to the make in Alabama for the first half of the year show an output around 1,206,258 tons, against 990,122 tons for the same period in 1919. The 1919 production in Alabama, as given by the American Iron and Steel Institute, was 2,130,092 tons; in 1918, 2,587,852, and the largest output was in 1917, when 2,953,705 tons were produced. It is estimated that the production of iron during the last half of the year will exceed that of the first half.

Negotiations are under way for two or three furnace properties in this section of the State, two in what is known as the Birming-

ham district and the Rome, Ga., properties. These deals do not include the Brittain plans on Pigeon Mountain, between Chattanooga, Tenn., and Gadsden, Ala., mention of which was made a few weeks ago, and yet in embryo. Confidence is expressed by some of the furnace company officials here that the pig-iron market will be firm for several years at least; that the export business being offered indicates a big need for the product in foreign countries, while the heavy purchases of this year have made but little showing in the probable needs in this country in the rehabilitation program.

Coke producers in the Birmingham district are declining new business, having local demands and old contracts which will keep them busy for some time yet. The coke output is a little better this week, though coal shortage is noted at one or two places where coke ovens are supplied. There is practically no limit to the price that could be obtained if the producers desired to, \$15 being intimated. Seventy-two-hour foundry coke is bringing \$12.50 per ton with ease, with a higher ash coke \$11. Inquiries have been received again lately from St. Louis and other centers for coke, and the top-notch prices have been assented to. As stated, producers are taking on new business for coke.

The coal production in Alabama is still lagging, strikes at domestic mines and two or three commercial or iron company mines playing havoc. The mine workers are demanding their contract, which is the same, say operators, as demanding recognition, the grievances arising to be settled by a "representative" of the mine workers, that "representative" most likely an official of the union and not acquainted with the particular mining camp. Controversy has also been raised as to the wage scale bearing on day and monthly men, the mine workers' leaders claiming that the award of the commission appointed by President Wilson provided for \$1 a day increase on the wage in effect on October 31, 1919, while the operators say that the increase in the wage was 20 per cent, which amount has been in effect since April 1. Retail coal dealers throughout the State are a little worried on the coal situation, receipts being far from satisfactory. Conservative coal men predict a coal famine for the fall unless there should be a material change in the present conditions. The coal production in Alabama for the week ending July 3, according to figures given out at the office of the Alabama Coal Operators' Association, amounted to 282,778 tons, against 305,595 tons for the week ending June 26. The production for the past week will be less. A number of the industries of the district and the State are running low on fuel, and there is apprehension that steady operation may be interfered with.

A better feeling obtains in the scrap iron and steel market in the Birmingham district. While there are no new orders coming in, every indication points to a change for the better in the next few days. Stock is being bought in by dealers in such quantity as to meet immediate needs, but in case there should be an impetus in the order-placing, plenty of stock can be bought in. Quotations for old material show much strength this week. Foundries, pipe plants and other consumers of old material are manifesting some interest, and an inquiry or two has been sounded out.

Pig-iron and scrap iron and steel quotations in the South are as follows:

PIG-IRON.

No. 2 foundry, 1.75 to 2.25 per cent silicon, f. o. b. furnaces, \$42; No. 1 foundry, 2.25 to 2.75 per cent silicon, \$43.60; iron of 2.75 to 3.25 per cent silicon, \$45.20; basic, \$42; charcoal iron, \$55.

OLD MATERIAL.

Old steel axles.....	\$32.00 to \$34.00
Old iron axles.....	31.00 to 33.00
Old steel rails.....	21.00 to 25.00
Heavy melting steel.....	21.00 to 25.00
No. 1 R. R. wrought.....	22.00 to 24.00
No. 1 cast.....	32.00 to 35.00
Stove plate.....	25.00 to 27.00
Old car wheels.....	30.00 to 31.00
Old tramcar wheels.....	30.00 to 31.00
Machine-shop turnings.....	12.00 to 13.00
Cast-iron borings.....	12.00 to 13.00

Services of Architect Desired.

The Board of Trustees of Mercer University, at Macon, Ga., looking to the future growth of the institution, desires to secure an experienced architect who will prepare a master plan outlining the development of the university for the next hundred years. Dr. Rufus W. Weaver is the president of Mercer University.

RAILROADS

RUSSIA WANTS 500 ENGINES.

But President S. M. Vaulchain of the Baldwin Locomotive Works Says Bartering With Russia Is Not Possible.

Samuel M. Vaulchain, president of the Baldwin Locomotive Works, is quoted in the Philadelphia Ledger as saying that six special envoys of the Russian Soviets had called upon him within the last two months and "literally begged" him to accept orders for a large number of engines.

"If the ban on the export of locomotives and other rolling stock to Russia were lifted tomorrow," said Mr. Vaulchain, "I would be able to sell at least 500 locomotives to the Soviets the next day. Such an order alone would keep my men at work through all of next winter."

The prohibition on business with Russia, however, has not yet been modified sufficiently to make such transactions possible, it was learned yesterday. There still is a ban on the export of locomotives and other railroad materials.

Washington dispatches received in Philadelphia stated that engines and rolling stock might be sold to Soviet Russia with a special trade license from the State Department. "The regulations," said a man in close touch with conditions, "carry with them the proviso that the exporter must furnish 'convincing proof' that the materials shall be used for 'civil purposes only.' As the railroads in Russia are owned by the Government, and as that country is now at war with Poland and other nations, it is not humanly possible to furnish such 'convincing proof.' Who shall say whether the Soviet Government will use the locomotives for the transportation of grain or for troop movements?"

Mr. Vaulchain asserted he would not think of doing any business with Russia as long as a special trade license was required.

"I would not bother with it," he said. "I either will sell my goods to the Soviets directly or not at all. I have enough business to keep the Baldwin Locomotive Works running without going through the trouble of applying for special licenses and furnishing 'convincing proofs.'"

"Within the last 60 days no fewer than six envoys of the Soviet Government have been to see me right here in the office and literally begged me to accept orders for large quantities of locomotives and other railroad equipment.

"The orders are there, and I am prepared for them. The moment the ban is lifted I can sell 500 engines as a 'starter.'"

"Of course, my terms would be 'cash in New York before delivery.' In other words, the gold would have to be in the bank before the ship with the Baldwin locomotives would sail."

Business with Russia on a "bartering basis" is an impossibility, according to Mr. Vaulchain. His view on that subject was shared by several other manufacturers and merchants.

Arkansas Line Will Continue to Be Operated.

An order to sell the Arkansas & Louisiana Midland Railroad to E. A. Frost, G. S. Prestridge and T. F. Whited of Shreveport, La., for \$375,000 has been issued by Judge G. W. Jacks of the United States Court, according to a report from that city. The sum of \$10,000 was deposited to bind the bid, and the purchasers of the road have two months in which to complete payment.

E. A. Frost is president of the Frost-Johnson Lumber Co., and his associates are also in the lumber business. It is stated that they agree to continue the road in operation for its entire length from Monroe, La., to Crossett, Ark., 52½ miles. There had been talk of discontinuing operation north of Bastrop, La., which is 22 miles north of Monroe.

It is said that this deal may result in the road being extended both northward and southward, in the first direction to Monticello and Pine Bluff, Ark., about 75 miles, and in the second direction to Alexandria, La., about 85 miles. It is explained that in either direction it might not be necessary to build for the entire distance, but only connecting links, so that perhaps only 60 miles of new track need be constructed.

Proposed Santa Fe Lines for Western Texas.

Lamesa, Tex., July 8—[Special.]—It is confidently predicted that one of the first pieces of railroad construction to be done by the Atchison, Topeka & Santa Fe in Texas will be to extend its Lamesa branch line to Sterling City, where connection will be made with the branch line that runs to San Angelo. The gap to be filled is about 100 miles long, and the construction of the road would mean the establishment of a new north and south line through a rapidly developing part of Western Texas, where there is already available for transportation an enormous tonnage of livestock and farm products. The route of the proposed extension is through Big Spring, where the Texas & Pacific Railroad will be crossed. The Atchison, Topeka & Santa Fe has purchased a large acreage of leases in the prospective oil field near Big Spring, and plans to conduct extensive exploration and development operations there.

It was the policy of the late E. P. Ripley during the years that he directed the affairs of the Santa Fe to construct new lines in Western Texas whenever the development of the different localities justified the providing of railroad transportation facilities. As a result of that practice, the Santa Fe practically holds a monopoly of railroad business in the vast South Plains region, which is rapidly becoming the greatest cotton, wheat, corn and sorghum producing territory of the State. The branch line of the Santa Fe, which runs from Lamesa to Slaton, has been a wonderfully profitable piece of road ever since its construction several years ago. The same is true of all of the other lines of the Santa Fe in this part of Texas. The opening up of broad scopes of territory to agricultural development by the building of these roads has led to the establishment of hundreds of prosperous homes.

Another new branch line of railway which is in early prospect is to be constructed from either Big Spring or Midland through Crane county, traversing a large block of lands that are owned by the University of Texas, and which are now under lease for oil exploration. Locations for three wells have been made upon this property. Both the Texas & Pacific and the Santa Fe are reported to have the construction of this proposed line under consideration. Tentative projects for the construction of other lines of railroad in this part of the State are under consideration. It is assured that substantial cash bonuses and land donations will be given in aid of the proposed enterprises by the people in the towns and along the routes.

St. Louis Southwestern Texas Improvements.

Referring to improvements of the St. Louis Southwestern Railway, A. A. Matthews of Tyler, Tex., chief engineer, writes to the MANUFACTURERS RECORD:

"We are building a small yard and engine terminal at Hodge, seven miles out from the Fort Worth station, at an estimated cost of \$220,000. These facilities consist of five miles of track, with about 35 turnouts, and there will be the following: 50x100-foot engine-house; 50-ton mechanical coal chute; two-bucket Robertson cinder conveyor; 60x140-foot car-repair shed; small shop; lodging and eating-house for employees; 12 houses for employees; section-house; deep well; air lift and high water tank.

"Grading for yard tracks by List & Gifford; coaling station furnished and erected by Bay City Foundry & Machine Co.; W. E. Hedrick Construction Co., Fort Worth, erecting buildings; railway company laying tracks with own forces."

\$1,000,000 for Texas & Pacific Improvements.

A report from Dallas, Tex., says that the Texas & Pacific Railway will spend about \$1,000,000 for improvements on its line between Fort Worth and Whitesboro, Tex., 71 miles, according to an announcement by J. L. Lancaster, president and co-receiver. Work will begin immediately, and it is expected to finish it by January next. This section of track to be improved is described as "the joint track line," because the Missouri, Kansas & Texas Railway has the right to run trains over it. Heavier rails are to be laid, 85-pound steel being substituted for the present 75-pound, the roadbed will be rebalasted, embankments will be widened and bridges will be strengthened so that heavier engines may be used. Passing tracks are to be lengthened, timber trestles are to be eliminated and ditching and draining are to be improved.

Richmond & Fairfield Electric Railway.

The Richmond & Fairfield Railway Co. has been organized at Richmond, Va., to operate the electric road running from Richmond to Seven Pines, about seven miles, which has been operated by the Virginian Railway & Power Co. of Richmond during the last two years for the United States Housing Corporation, and which was recently purchased from the Government for about \$200,000 by a syndicate organized by Oliver J. Sands, president of the American National Bank of Richmond, who was prominent in the rehabilitation of the Richmond-Ashland electric railway last year. Mr. Sands has been elected president of the new company, the vice-president and treasurer being Oscar E. Parrish, president of the Church Hill Bank. J. A. Baird is general manager. All of these officers are also directors, the other members of the board being S. W. Zimmer, A. L. Vaughan, J. B. Finley, R. H. Bruce, F. M. Conner, John L. Miller and Max Schoenbaum.

In connection with this plan to continue operation of the railway a local report says there are a large number of houses at Seven Pines, built by the Government for its workers, and it is likely that these will be acquired by the Richmond & Fairfield Railway Co. and offered to the public at reasonable rentals to alleviate the congested housing conditions now existing at Richmond. The operation of the line by the new company is also expected to result in considerable development of the east end section.

Electric Lines Plan a Combination.

An arrangement has been agreed upon between the Washington, Baltimore & Annapolis Electric Railway and the Annapolis Short Line for the cars of the latter to use the Baltimore terminals of the former. At present the Short Line has its terminal at Camden Station, one of the stations of the Baltimore & Ohio Railroad in the city, where it has been a tenant ever since its opening for business on March 9, 1887. It was originally a steam-operated road, but has been using electric cars for some years. It is expected that the change of terminals will take place by September 1, if not before. A track connection will have to be built at or near Clifford's Station, where the two lines are parallel just within the city limits.

It is also proposed that the Short Line be taken over and operated by the Washington, Baltimore & Annapolis Electric Railway Co., but the financial details of this have yet to be fixed. At present it is said that the larger company will guarantee the \$1,000,000 first mortgage bonds of the Short Line, and will also issue \$550,000 of bonds for funding floating debt and \$200,000 for car trusts. It is further stated that about \$200,000 will have to be spent for improving the physical condition of the Short Line.

It is estimated that the Short Line will save immediately about \$62,000 a year by the proposed changes as to terminal and operation.

Electric Line Proposed for Blowing Rock.

Raleigh, N. C., July 10—[Special.]—The Blue Ridge Development Co., which is pushing the survey of an electric railway between Mt. Holly and Blowing Rock, has reached Newton from Mt. Holly, and will take up the route to Lenoir. It is planned to carry the line on from Blowing Rock to Boone. It is found that a good route is easy, at much less construction cost than was expected. It is an interesting fact that last week President Fairfax Harrison and Vice-President Henry W. Miller of the Southern Railway visited Blowing Rock, which has never had a railway.

New Equipment.

Tennessee Coal, Iron & Railroad Co. has ordered four and the Birmingham Southern Railroad two locomotives from the American Locomotive Co.

Baltimore & Ohio Railroad is reported in the market for 50 Mikado type locomotives.

Atlantic Coast Line, it is reported, will purchase 500 coal cars of 50 tons capacity.

Texas Southeastern Railway has ordered a locomotive from the Baldwin Locomotive Works.

Loan Denied to the "Orient" Road.

The Interstate Commerce Commission has refused to loan \$3,500,000 to the Kansas City, Mexico & Orient Railway from the \$300,000,000 revolving fund, application for such a loan having been made by the road several weeks ago. It is said that sufficient proof of the need for the loan was not presented; also that it was evident that the road did not require a loan from the United States to enable it to properly meet the transportation needs of the public.

That the Kansas City, Mexico & Orient Railroad wants a new hearing on the loan is told in a dispatch from Kansas City, which says:

"Clifford Histed, counsel for the receivership of the company, says that an application will be made for a new hearing by the Interstate Commerce Commission of the railroad's request for a loan of at least \$1,000,000 from the revolving fund provided by the Esch-Cummins law.

"In our application for rehearing," Mr. Histed said, "we shall point out that the continued operation of the railroad is a public necessity, and ask that at least a sufficient sum to guarantee the current running expenses of the road be advanced. That means at least \$1,000,000."

Mining Fuel for Virginian Railway.

Coal for the fuel supply of its locomotives, etc., will be mined by the Virginian Railway Co., Charles H. Hix, vice-president, Norfolk, Va. It will be obtained from the Loup Creek mines, the company having purchased the Loup Creek Colliery Co. with a daily output of 2200 tons of coal. The properties include partial development for which \$1,000,000 has been invested since 1911, one of the operations to be developed for the Virginian Railway's coal supply, and the balance to be leased for commercial mining, consisting of about 27,000 acres of coal land. The mining plant is located at Page, Fayette county, West Virginia.

\$18,000,000 Expenditure for Equipment.

Big investments for the Santa Fe system are mentioned in a dispatch from Dallas, Tex., which says:

"Eighteen million dollars will be spent by the Santa Fe system for new equipment, to be delivered at the earliest possible moment, Santa Fe officials have announced. Orders have been placed with manufacturers for 50 locomotives of the most modern type for both passenger and freight service, 3000 gondola cars, 2500 refrigerator cars and 5000 box cars. Fifteen hundred of the box cars will be built especially for the handling of automobiles and furniture. The \$18,000,000 also provides for the purchase of a large number of passenger, mail, baggage and express cars."

Superiority and Abundance of American Graphite.

W. L. SHUMATE, JR., President Dixie Consolidated Graphite Co., Birmingham, Ala.

I have read your interesting article, "American vs. Foreign Graphite," in the July 1 issue of the MANUFACTURERS RECORD, which is only in keeping with your approved general policy of standing by Southern industrial development.

There is enough graphite in Alabama alone to supply the entire needs of the United States indefinitely, and the experimental work of the Bureau of Mines during the war, to which you refer in your article, proved conclusively that it is not only of crucible grade, but that a crucible made of 100 per cent Alabama flake graphite is superior to a crucible made from any foreign graphite, or from any mixture of foreign and Alabama graphite. Dr. Stull of the Bureau of Mines conducted these experiments at the Ohio State University laboratories in Columbus, Ohio, and I am sure you would find a copy of Dr. Stull's "original" report very interesting.

It is true that the foreigner has been able to produce graphite cheaper than we have, even in the South. The reason for this is not that he has superior methods, or that he has better equipment, but it is that we pay our labor as much for an hour's work as he pays his labor for a day's work. For this reason we are glad to hear your voice in support of our effort to obtain sufficient protection for American graphite to somewhat equalize the wage scales and enable us to continue the development of one of the key industries of the country.

Good Roads and Streets

Knowledge of Subsoils Necessary to Solve the Highway Problem.

By WILL P. BLAIR, Vice-President National Paving Brick Manufacturers' Association.

During the few years last past an attempt has been made to improve the roads of our country, that they might bear economically the traffic put upon them. These improvements have cost an immense sum of money. In the endeavor to maintain them the cost has been out of proportion to that of the original construction, and in most instances they have not been maintained in a usable condition. The public is disgusted with the condition of our highways. Excuses, explanations and pet theories do not satisfy an impatient people. It may as well be understood that they want a road covering the entire route of the journey, unimpaired, insuring a speed of movement and weight of movement so dependable that both cost and arrival can be calculated with mathematical certainty.

Roads in this country built upon theory have been in use a sufficient length of time for most theories in road building to be put to the scrap heap. And their existing state is inviting the greatest consideration and is begetting the greatest attention, invoking direct and practical queries as to "what is the matter with the roads?" What is the trouble with this particular road and that particular road that it gives way and is broken up under the traffic imposed upon it? Why are some roads good in places and bad in other places? That the answer must be obtained is without dispute. If all that is involved in "transportation relief" reaches realization, if industry, if public welfare are ever to benefit from the wonderful advantage seen in the use of the truck, an economic road for the truck must be provided. It is the only and quickest relief obtainable by which to satisfy transportation demands of the present day.

Necessity for greater use of our highways has brought their condition and behavior to the notice of more people than ever before.

Because of the fact that there are stretches of improved road conditions which afford a traffic movement with rapidity and ease, and some other improved stretches utterly destroyed by the same traffic, and still other like improved sections in greater proportion, worn to that intermediate condition for travel which merely affords a chance to get over it, with discomfort and economic loss, a spirit of acute inquiry has been aroused by the comparison.

The roads of our country are in no worse condition today than they have ever been, but a greater number of the public have been brought face to face with their condition by their increased use, necessitated from industrial development and greater increase of tonnage movement of all kinds.

Short hauls over the highways are imperative. It is useless to discuss its advantage either in detail or by illustration. Men with ordinary familiarity with transportation difficulties on the one hand and the possible advantages on the other hand do not need an added word. The problem to be mastered is the road.

The economic value of materials used for road surfacing can be fairly well estimated, and is well understood today by engineers. Great effort, and successful effort, has been directed in producing road surfaces of great durability, so that actual traffic wear is but a negligible element of destruction.

Wherein, therefore, lies the fault, the omission or lack of knowledge to do what may be done, to build our roads adequately and economically for present-day use?

The problem to be solved has already been deeply impressed upon the students of highway engineering.

The railroad engineer and the highway engineer have come to realize that they must seek for security of an undisturbed road surface, a stabilized support below the ballast and artificial foundation upon which the wearing surface rests. Soil substructure and its behavior from the natural causes must have a determined treatment to supply a sufficient and adequate support to the wearing surface and the weight and impact of traffic to be borne. Building bridges over the entire road route will not do it, and is neither economic nor sound engineering. Hitherto we have pushed

the treatment of the subgrade aside by the non-understandable, impossible-of-correct-interpretation word drainage. It is a splendid avenue through which to pass the buck, or, to put it less mildly, to hide our ignorance. We need to know soil quality, how its absorptive, its capillary, its evaporative and the respective differences are influenced and the conditions under which its highest bearing value can be maintained.

With this knowledge of soils ascertained, we shall then be able to classify and correlate a treatment which will stabilize not only against the destruction by traffic, but we can provide against the greater destructive agency which comes from natural causes.

We can write into specifications the most discriminatory measures of treatment, favoring actual economy in road building. We shall be able to do what we cannot now do—design a road without waiting for its use to demonstrate the accuracy of our guess. Experimental roads which cost thousands in money will become a thing of the past.

We can escape from the theoretical guess, which heretofore has resulted in the expenditure of thousands of dollars needlessly, and expend adequately where conditions require.

The situation is one pressing for a solution. There is a bright promise for this engineering requirement in the near future in the sudden awakening of numerous agencies which have undertaken this inquiry; a research long neglected but none the less of great value to the country is to be undertaken, in fact it is in progress.

The Federal Highway Council, deeply in earnest to place road building upon a high plane of service to the country, has appointed a committee, of which Gen. T. Coleman du Pont is the chairman, which is charged with the duty of examining into the "Subgrade and Its Relation to Road Surfacing and Traffic."

The Bureau of Public Roads of the United States is co-operating in this effort. The American Railway Engineers' Association and American Society of Civil Engineers through their appropriate committees are pursuing a research which will doubtless prove of great aid in reaching the desired results. Other organizations, university laboratories in considerable numbers, are co-operating and will furnish needed assistance. Out of all this there is reasonable assurance of great and early benefit.

Value of Hard-Surfaced Roads Adequately Maintained as Illustrated by the French Roads.

By JOSEPH HYDE PRATT, Colonel 105th Engineers, 30th Division, and Director North Carolina Geological and Economic Survey, Chapel Hill, N. C.

As one studies the history of the World War it will be found that the highways was one of the important factors that helped to win the war. You can take a map of any portion of France and see portrayed on that map roads, some in broad red lines, some in narrow red lines and some in checked lines, and know that every single mile of the roads represented by these lines, excepting in the forward areas, where they had been blown up by the Germans, could be gone over by automobile and truck any day in the year in any weather. Supplies for all the armies were sent forward often in trucks over the highways. This was particularly true during the fall of 1918, both in Belgium and Northern France, when the big push began which ended with the armistice. As the Hun retreated he blew craters in many of the roads, but his chief destruction of transportation lines was the railways, and he destroyed them systematically, as he did everything else.

As far as I can ascertain, there were certain conditions in the United States during the war period where the needs of a military highway were felt, and the highways in some sections of the country were used to transport troops and military supplies from one part of the country to another. That this would have been done much more extensively if the roads had been in condition for the use of motor trucks is the consensus of opinions.

There are maps of nearly every State in the Union, upon which are indicated by different-colored lines the highways in these States; but in very few cases do the lines mean roads that can be traveled over 365 days in the year, regardless of weather conditions. Take our own North Carolina map, and we see a red line indicating a highway from Morehead City or Beaufort to Asheville and the Tennessee line, constituting what is known as the Central Highway. In good weather we know we can make the whole trip

very comfortably, but in wet weather the question is always, Will we be able to get through? That question never had to be raised in France. Regardless of weather, we knew that when we started from one point to another, barring accidents to machines, we could always make the trip. That is the kind of roads that the 3,000,000 men sent to France wish to see constructed throughout the United States, and I believe the American Expeditionary Forces' men are going to be a strong factor in bringing about the construction of such highways in their own country. France as a country began building good roads almost as soon as she was released from the Roman yoke. Caesar built many of these roads during his invasion and occupation of the territory. These roads are being used today, and you can usually tell the Roman road by its straight alignment. You can ride for miles and miles over some of these old Roman roads without seeing a turn in the road. Although these roads were built in the time of Julius Caesar, they are some of the main roads in use today. Napoleon the Great realized the value of the military road, and he expanded the system of main highways in France. The government, whether empire or republic, has, as a government, realized the value of the highways to the development of France, and in building these highways France built roads as nearly permanent as possible. As is well known, but not realized by all, no roads are permanent. France realized that there are no permanent roads, and therefore she took the necessary action in providing for the maintenance of the road after it was constructed. She has continued this program until now practically all the roads of France are hard-surfaced roads. She has classified her roads, similarly as we hope to classify ours. She has the primary roads, which would correspond to our State and National highways; the secondary roads, which would correspond to our county highways, and the third-class roads, which would correspond to our township roads. She has, however, been in the road business so long that even her third-class roads are hard-surfaced.

There are certain lessons to be drawn from the French system of roads that I think would be of benefit to use in connection with our road work in North Carolina, such as type of road, width of road, classification of roads and maintenance of roads.

The primary or main roads have 24 to 30 feet width of hard surface; then there is a turf or rock shoulder rising 3 to 4 inches high from the surface of the road and then sloping gently from 15 to 20 feet back to the main ditch. These slopes were all grassed. The only water on these roads was the rain that fell on their surface, but at a distance of every 50 feet the shoulder was cut so that the water could flow on to the grass and find its way to the main ditches, which were away from the hard-surfaced portion of the road. There were rows of trees on all these main highways, planted between the ditch and the hard surface. The road was sufficiently wide to permit passing of any vehicle and without any tendency to drive over the shoulder of the road.

The secondary roads had 18 to 20 feet of hard surface, and usually were built with the similar shoulders and character of construction in regard to the ditches as the primary roads, and were double-track roads. The third-class roads were not supposed to be double track. They were single track, and had a hard surface from 9 to 11 feet wide.

One lesson we can draw from the roads of France is not to make the mistake of trying to utilize a width between the single-track and double-track roads and get a road which we call a double-track road that is not wide enough for two trucks or automobiles to pass on the hard surface. I do not believe that a national or primary double-track road should be less than 20 feet wide, although many States have 18 feet as the width of their double-track roads. Some States are trying to use 16 feet and one 14 feet as double-track roads. There have been many people killed on this 14-foot road because they have tried to use it as a double-track road. Trucks are now being built that are nearly 8 feet over all; you cannot pass them on a 16-foot surface. Part of the truck or passing vehicle must get off the hard surface. A truck passing an automobile will edge toward the center, as the truck is not going to take chances of putting its wheels off the hard surface if it can be helped. If the automobile tries to stay on the hard surface (which it will, especially if it is raining), there is more than apt to be an accident. Our experience in France with single-track roads was that the truck stuck to the surfaced road and the automobile had to get off. The point I am trying to bring out is, first, if we build a double-track hard-surfaced

road there will be but very little tendency to build a good dirt road on one side of the hard surface, but if we have a single-track surfaced road the chances are that there will be constructed a dirt or sand-clay road to one side. In other words, for "safety first," our double-track roads should have a sufficient width of hard surface to enable vehicles to pass safely on the hard surface. If not double track, then make them really single-track hard-surfaced roads, so that there will be no attempt made by drivers of vehicles to stay on the hard surface when passing others, which will be the case when the surface is 14 feet to 16 feet wide. A single-track road does not need to be over 10 to 12 feet wide. Traffic conditions on the highways in France as we experienced them emphasize the need of 20 feet as the minimum width of the hard surface of a double-track road.

Where it is found necessary on account of financial conditions to construct a single-track hard surface on a national or primary road, it is suggested that the plans and specifications be drawn up in accordance with those of State and Federal commissions and then one-half of the surface be constructed on the side of the road, with its crown and thickness in accordance with the specifications of the road with its full width, then construct a dirt road adjoining the hard surface. Later the second half of the hard surface can be constructed, when the traffic demands a double-track road. This method will be more economical than to build the single track in the center of the right of way and then later have to build the additional width on each side of the hard surface in order to get the desired width of a double-track road.

With the exception of the roads within cities, and a certain number of miles of road extending out from the larger cities, which roads were surfaced with Belgian block, the roads in France were surfaced with water-bound macadam, the rock used being principally limestone.

These surfaces up to 1914 were satisfactory and were maintained at a reasonable cost, but with the outbreak of the World War, in August, 1914, the roads of France were subjected to an unforeseen and unexpected traffic. While automobiles had been in use in France for many years, they were not in very large numbers, and motor trucks were almost unknown outside of the cities and towns. The roads were also subjected to a traffic of heavy wagons with comparatively narrow tires. This increased traffic and new type of traffic had a very devastating effect on the surface of the macadam roads. While the primary and secondary roads never became impassable, their surfaces did become badly worn, pitted and filled with shallow holes; but the splendid foundation and drainage of these roads prevented their deterioration from extending to such an extent that they would become impassable before they could be repaired. In their worn condition, automobiles could not make very rapid speed over them, and trucks were compelled to regulate their speed to a few miles per hour.

The splendid system of road maintenance that the French had inaugurated was not sufficient to maintain the roads under the tremendous traffic conditions to which they were subjected. It was possible to catch up with the repair work and to maintain these water-bound macadam roads, but only at a very great expense. In some instances it would cost at the rate of at least \$10,000 per mile per year for maintenance, and yet, while the maintenance could be accomplished, its excessiveness would demand a heavier surface when maintenance would be very much lower.

Motor trucks will continue to be used in France, and the French primary water-bound macadam roads at least will have to give way to bituminous, concrete or other harder surface roads. Some of the secondary roads will also have to be given new types of surfacing, but the third-class roads will remain for many years to come to be surfaced with water-bound macadam.

The French had devised an adequate method of surfacing and of maintenance of this surface for their roads under the traffic conditions to which they were subjected before the war, and the French nation will undoubtedly determine an adequate surface for their roads and an adequate method of maintenance of that surface which will insure in the future hard, smooth-faced highways under the new traffic conditions.

France can do it, and the United States and the several States comprising the United States can and must construct hard surfaces that will sustain the load of traffic, and also must devise a satisfactory method of maintenance.

West Virginia's Splendid Progress in Road Building.

Charleston, W. Va., July 8—[Special.]—Nearly \$1,000,000 of State and Federal funds were expended in West Virginia during the fiscal year ending July 1 in aiding in the building of improved roads in the State, the exact amount, however, being \$959,657. To participate in the State and Federal-aid distribution it is necessary for counties to establish and begin work on what are termed class "A" roads—roads coming up to certain State and Federal specifications.

There will be available for distribution to the counties of West Virginia during the current fiscal year, it is stated, a total of \$3,163,497 from State and Federal-aid funds, provided counties meet the necessary requirements prescribed by the State Roads Commission. The State-aid fund derives its revenue principally from automobile licenses.

Since the enactment of the present road law of West Virginia, in 1917, there has been a most pronounced improvement in the system and method of building county roads. Many of the Class A roads constructed or to be constructed are on a grade and afford an easy means of travel.

Indicative of the progress made in the last few years, it is only necessary to point to the fact that up until June 1 of the present year magisterial districts in the various counties of the State had authorized at special elections bond issues to the amount of \$25,110,477.

If progress in the construction of good roads continues at the present rate during the next few years, an easy means of communication will be furnished to all parts of the State.

The fact that so many people own automobiles has, of course, created a favorable sentiment for good roads, but even those without cars have come to realize the advantages of permanent roads not only as a means of travel, but as an economic necessity.

\$12,000,000 for Oklahoma Highway Construction.

Many millions of dollars will be expended for the highway construction now planned throughout Oklahoma. Outlining the road work proposed, Robert C. Terrell, State Engineer, State of Oklahoma Department of Highways, writes to the MANUFACTURERS RECORD:

"We have about 50 counties requesting Federal aid. Project statements have been prepared and estimates made for work varying from \$20,000 to \$900,000 in the various counties. This work is all done under the direct charge of the State Engineer. The total amount available for expenditure will be about \$12,000,000, including work under contract and that to be let within the next 12 months.

"The character of construction varies from gravel roads to the highest type of hard-surfaced roads and the most durable types of bridges. No dates have been set for opening bids for this work, but several projects will be advertised in the very near future."

Road Building in North Carolina.

Raleigh, N. C., July 8—[Special.]—Since work began, in the spring of 1919, under the direction of the North Carolina Highway Commission, headed by Mr. Page of Moore county, work has been finished or is in progress on 508 miles of hard-surface and gravel roads, the cost of these to total \$7,327,835, including bridges, and covering 73 projects, these being in 55 of the 100 counties. The cost of work has risen very greatly recently. Most of the contracts were let at \$31.468 for hard-surface roads (127 miles) and at \$8495 for gravel roads. Now the cost is \$40,000 and \$10,000, in round figures. Owing to the railway embargo on stone, many contractors are shutting down work.

Million-Dollar Motor Plant for Atlanta.

Plans of the Red Diamond Motors provide for building works to cost \$1,000,000 at Atlanta, Ga. Plans are in charge of the H. D. Best Engineering Co. of New York. The first unit will be of steel and concrete construction, costing \$250,000, and will be followed by other units to include foundry with machine shop.

The Diamond Red Motors has been organized with the following officers: W. H. Seabrook, president; P. E. Hicks, vice-president; Henry Short, secretary; T. L. Hamilton, treasurer.

TEXTILE

Textile Instruction in Public Schools Proposed.

Union, S. C., July 7—[Special.]—That all public schools in textile mill communities shall have an elementary course in textile instruction, which shall be supplementary to the regular school course, was proposed by Mr. R. P. Sweeny, general manager of the Buffalo Mills plant of Union and Buffalo Mills at Buffalo, near this city, and was adopted by Southern Textile Social Workers' Association at its second annual meeting at Rock Hill last week.

Mr. Sweeny's resolution provides that a committee be appointed to work out such an elementary course in textile instruction that will give a practical working knowledge of the textile industry, the same as the agricultural course in the schools give regarding agriculture, the idea being that after such a course has been worked out and approved it shall become a standard throughout the South, and should prove of very great value to the youth of the textile mill communities.

At this meeting of the association there was a very attractive pageant, in which about 200 persons participated, which was entitled "The Spirit of Cotton," illustrating every phase of cotton production and every process of the manufacturing of cotton into cloth.

Under the supervision of Mr. W. R. Jewel, head of the welfare work at Ottary Mills of this city and Wallace Mills at Jonesville, "A Model Mill Party" was given in the gymnasium at Winthrop College, with the delegates at the meeting participating.

Two Additional Cotton Mills for Lincolnton, N. C.

There will be two additional cotton mills erected at Lincolnton, N. C., separate companies having been organized for this purpose. One is the Love Cotton Mills Co. with the following officers: President, Robert A. Love; vice-president, Edgar Love; secretary-treasurer, B. P. Caldwell; all of Gastonia, N. C.; this company will build a plant of 7000 spindles for manufacturing fine carded yarns. The other enterprise is the Melville Mills No. 2, a branch of the Melville Mills at Cherryville, N. C. The Melville company will build a 6000-spindle mill for coarse-yarn production, and its officers are: President, Edgar Love; vice-president, Robert McLean; secretary-treasurer, Frank Love; all of Gastonia.

Completing Eastside Cotton Cloth Mill.

The Eastside Manufacturing Co., Shelby, N. C., has completed its buildings, and is beginning to install machinery for manufacturing cotton cloth. Its main structure is of brick, 275 feet long by 106 feet wide, costing \$250,000, to be equipped with 10,280 spindles and 260 looms driven by electricity, with individual electric-power drive. This equipment of machinery will cost \$250,000. E. R. Cash of Shelby is the company's president, and J. E. Sirrine of Greenville, S. C., is its engineer-architect.

For Daily Capacity of 200 Dozen Pairs.

Two hundred dozen pairs will be the daily capacity of the Pioneer Hosiery Mills Co., Corsicana, Tex., organized with \$300,000 capital. Bush Wofford and William Clarkson, Jr., are the organizers, and they will obtain their supply of hosiery yarns from the Corsicana Cotton Mills.

Textile Mill Notes.

C. D. Orrell and associates have incorporated the Moncure (N. C.) Manufacturing Co. with \$200,000 capital.

The Blue Ridge (Ga.) Knitting Co. has been organized with \$30,000 capital, and J. F. Holden is secretary-treasurer.

An increase of capital from \$220,000 to \$580,000 is planned by the W. S. Gray Cotton Mills of Woodruff, S. C.

From \$100,000 to \$500,000 is an increase of capital decided upon for the Cora Cotton Mills of Kings Mountain, N. C.

An increase of capital from \$6,400,000 to \$8,300,000 has been announced for the Victor Monaghan Company, Greenville, S. C.

The American Mills Co., manufacturer of cordage, Atlanta, Ga., has increased capital to \$1,000,000.

Autauga (Ala.) Cotton Mills plan to install an electrical drive for 50 per cent of its machinery. This company will rebuild its water-power dam, destroyed by flood several months ago.

An increase of capital from \$250,000 to \$750,000 is planned by the Pickens (S. C.) Cotton Mills for general improvements, to include building and electric-light plant and an ice factory.

J. R. Tweeter of Oakboro, N. C.; A. N. James of Mount Pleasant, N. C., and associates have incorporated the Oakboro Cotton Mills with \$500,000 capital.

An increase of capital from \$1,000,000 to \$1,600,000 has been announced for the Gaffney (S. C.) Manufacturing Co., manufacturer of cotton cloth.

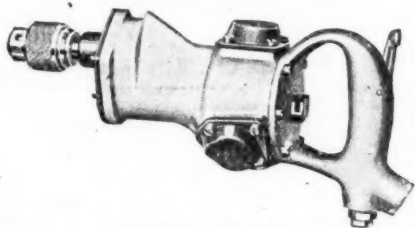
Little River Light & Power Co., L. L. Hester, president, Calhoun, S. C., has purchased mill building, 180 acres of land and water-power estimated to develop 300 horse-power. It plans to build a cotton mill.

Consolidated Textile Corporation, Pelham, Ga., will improve its mill and install new machinery, to include 88 looms and slasher. It is also enlarging its slasher-room and erecting an office building of hollow tile.

MECHANICAL

New Light Pneumatic Tools.

Several new sizes of small portable pneumatic tools have been added to the "Little David" line manufactured by the Ingersoll-Rand Company, 11 Broadway, New York City. They have been developed to satisfy demands for light-weight, high-speed machines for work to which heavier tools are not fully adapted. These tools include a close quarter drill for use when working near a wall or in a corner; it is known as No. 8. It runs at 250 revolutions per minute without load, but will handle drilling, reaming or tapping up to 1 1/4 inches in diameter. The spindle which turns the drill, reamer or tap is operated by three rocking levers connected directly to the pistons. The motor is of the three-cylinder type, with pistons acting at right angles to the



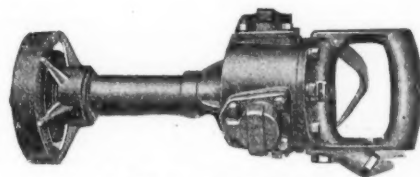
THE No. 6 DRILL

levers. A very steady, continuous movement of the spindle is obtained, as one ratchet pawl is always in contact with a tooth of the spindle. The construction is simple and sturdy.

There are also two types of grinders, known, respectively, as No. 601 and No. 602. They run with a free speed of 4200 revolutions per minute, and are suitable for grinding, buffing or polishing work of a varied nature. Both machines have the same kind of motor, but the first has the closed type of inside trigger handle and the second the rolling type of throttle handle. A special feature is the three-cylinder motor (very different from the motor of the No. 8 drill), which runs constantly in a bath of oil, as lack of proper oiling has been one of the causes of most grinder troubles. The valve is integral with the crankshaft, and the piston and connecting rods are also of unique construction. Ball and

roller bearings are used throughout. The handle may be quickly removed to inspect the parts.

The drills, No. 6 and No. 600, respectively, are light air tools for drilling small holes without breakage of drills, and they will handle twist drills from the smallest size up to 3/8-inch diameter. At 90 pounds air pressure the free speed is about 2000 revolutions



THE No. 601 GRINDER

per minute. The motors are alike, but the first has a pistol-grip handle; the other has a breastplate and a rolling throttle handle. Aluminum, with steel bushings, is used wherever possible, and No. 6 weighs only nine pounds. Motor is three-cylinder, each cylinder being separate, interchangeable and easily renewed. Bearings are all either ball or roller. Throttle control is very sensitive, and this, with freedom from vibration, makes the tools ideal for use with small drills.

Illustrations of two of these tools are presented herewith.

Monthly Production of Steel Ingots.

Production of steel ingots for June was 2,980,690 tons, as estimated from 30 companies, which made 84 per cent of the 1918 output reporting to the American Iron and Steel Institute. This is the second largest monthly production this year, being exceeded only by the March output of 3,299,049 tons.

Production by months of steel ingots from January to June, 1920, is as follows:

Months.	Open hearth. Gross tons.	Bessemer. Gross tons.	All other. Gross tons.	Total. Gross tons.
January, 1920.....	2,242,758	714,657	10,687	2,968,102
February	2,152,106	700,151	12,867	2,865,124
March	2,487,245	795,164	16,640	3,299,049
April	2,066,336	568,952	13,917	2,638,305
May	2,251,544	615,932	15,688	2,883,164
June	2,287,273	675,954	17,463	2,980,690

The World's Production of Gold in 1919 and 1920.

The United States Geological Survey, Department of the Interior, has given out some preliminary figures showing the production of gold throughout the world in 1919. The production in the United States was \$58,285,196; Canada is reported to have produced \$14,687,000; India, \$10,028,000; Australia (not including New Zealand or the islands), \$29,268,000; the Transvaal, \$171,640,123; Rhodesia and West Africa, \$18,631,070. There was a probably large decrease in the production of gold in Russia and Siberia in 1919. Some increase was probably made in the output of Central America and South America, which, however, was doubtless offset by decreases in the output of other countries. The incomplete returns now available indicate that the world's production of gold in 1919 was between \$345,000,000 and \$350,000,000. The world's production in 1918 amounted to \$380,924,500.

The Geological Survey further states that information received during the first six months of 1920 indicates a still further decrease in the production of gold in the United States, and that the output for the year will probably be less than \$50,000,000. The production in Alaska, Colorado, California, Oregon and Montana will be much less in 1920 than it was in 1919, because water is very short for placer mining and many stamp mills are closed. Canada as a whole may increase its output, although the production of the Yukon districts will be smaller than last year. The output of Russia cannot be estimated. That of Australia will show a decrease. That of South Africa and South America will probably show no radical decrease. According to the Geological Survey, the indications are that the decrease in the world's production of gold in 1920 will not be so great as it was in 1919.

Commendations, Kicks and Comments

Keep It Up.

CHAS. S. KEITH, President and General Manager Central Coal & Coke Co., Kansas City, Mo.—I desire to congratulate you on your issue of July 1, also on your editorials entitled "Work" and "Mighty America Held in Chains by Little Minds in Official Places."

It is refreshing that courage and vision should find expression as you have expressed them. You are doing good work. Keep it up. Hoping that others will be inspired by your example, I am, etc.

Wish All the Boys Were Engaged in Same Work.

H. VAN ANTWERP, General Manager Rowan County Freestone Co., Farmers, Ky.—Please find enclosed check for \$2.25 for four months' subscription to the MANUFACTURERS RECORD to July 20, 1920, at which time you may cancel. I'm not quitting; don't you think it. Only this—I'm renewing for a full year through a subscription agency that one of my boys handles, beginning where the above leaves off. More punch to your pungent pen and best wishes always.

Personal Evidence of Appreciation.

HELION DICKSON, Department Manager "Automatic" Sprinkler Co. of America, New Orleans, La.—I am writing this merely as a sort of personal evidence of my appreciation of what your valuable paper has always meant to me. I have been a subscriber for many years, and while I have enjoyed the numerous benefits its news has always brought, I have so far failed to render my thanks for what has evidently been your life's work and the assistance your work has always meant to me. I am not going far enough to say that I approve unqualifiedly of everything you say and those principles for which you stand. A strong-minded, active, intelligent man must necessarily entertain ideas at times at variance with those of his friends. However, it is oftentimes what we leave unsaid rather than what we say which fails to offer encouragement to those who labor, and that you may at least know that your work in our office is falling in one more appreciative spot I am writing to add my thanks to those of the many which have heretofore reached you.

Present System a Heavy Burden on Taxpayers, in Time and Money, and Costs of Collection Leave Only Fifth of Amount for Government Use.

C. O'BRIEN, Lawrenceburg, Ind.—In the Daily Bulletin of June 30 I note your article "Efficiency and Success Penalized: Inefficiency and Failure Canonized." You seem to be indulging in the favorite indoor sport of the present—namely, complaint against Government taxation and exactions. While I have seen and heard these complaints many times, I have never heard a suggestion as to just how filling out income tax returns could be made a pleasure, or how the Government could assume the responsibility it does for supervision of the national banks without exacting some information from them.

It has been my duty to make several income tax returns annually ever since the law was enacted, and I have never found any difficulty in arriving at answers to all questions in the Government forms without legal advice, and examiners which the Government has sent around later have not been able to find any errors of consequence.

Is it not true that, whatever the form of taxation, the efficient, and consequently the successful, must pay it, for how can the tax be collected from the inefficient and failures? And should not the successful, who have been able to appropriate for themselves the larger share of worldly goods from the opportunities presented by the country, assume the larger share of the burdens of taxation?

Granting that the Treasury Department has called upon the banks for more data than ever before, does not said data show the national banks have recently had the most prosperous years in their history, and was not the year of 1919 entirely free from national bank failures? Should Government supervision be entitled to any credit at all for these results?

An article making specific suggestions for the improvement of income tax returns would prove constructive and of service, but if it is true there was not one single national bank failure last year, is not the supervision of the Treasury Department 100 per cent efficient?

State Chamber of Commerce Proposed for North Carolina.

Delegates representing cities and chambers of commerce for the purpose of organizing the North Carolina State Chamber of Commerce will meet at Wrightsville Beach, Wilmington, on July 21, 1920. Secretary of Agriculture Meredith and other speakers have been invited.

FOREIGN NEEDS

[The MANUFACTURERS RECORD receives many letters from abroad asking for information about American goods, and others, from men who wish to represent American houses. Without assuming any responsibility for these concerns, we publish a summary of the foreign letters of inquiry from week to week.]

Condensed Milk, Flour, Tobacco.

G. TANTI-BELLOTTI, Malta.—I would appreciate if you can assist me in getting agencies for condensed milk, flour for making bread and for exporters of American tobacco, Kentucky and Virginia, in leaf; preferably having branches in Europe.

Goods for Mail-Order Business.

RAM BROTHERS, Burns Road, Karachi, India.—We are dealing mostly in mail-order merchandise, as in the following list: Advertising novelties, amusement devices, games, toys, brushes, cutlery, stationery, office appliances, hosiery, household specialties, labor-saving devices, novelties of all sorts, shoes; in short, every article that can be sold by mail order. We shall be, therefore, obliged for names and addresses of reliable manufacturers, also catalogs.

Galvanized Iron, Aluminum and Chinaware, Wallpaper, Sandpaper.

JENARO GARCIA, Hotel Laclede, 106 E. 15th street, New York City, representing Bernardo Hoyes, Valparaiso, Chile.—I will be pleased to receive a list of firms dedicated to the manufacture and exportation of galvanized iron in sheets, smooth and corrugated sheets; household and kitchen furniture or utensils made out of aluminum or chinaware; wallpaper, as well as sandpaper to be used on wood as well as on iron. Correspondence in Spanish suggested.

Tools for Motor Cars, Motor Cycles, Etc.

SAX-WEARS, LTD., George St., Coventry, England.—We specialize in motor-car tool kits and pliers of every description, and keep large stocks of every kind of pliers and all hand tools required for the repair of cycles, motor cycles and motor cars. We are therefore interested in all American products covering these items, which we sell to the home trade through our subsidiary, the Godiva Tool Co., and which we also export to the European countries and the British colonies. The article interesting us particularly at the moment is the Seabrook type of adjustable spanner, respectively, 6, 7, 9, 11 and 15 inches long.

Automobile Tires, Etc.

V. HELER & CO., P. O. Box 1700, Johannesburg, South Africa.—We desire to secure sole agencies for the Transvaal, Natal, Orange Free State and Natal, in the Union of South Africa, for the sale of reliable, cheap four-cylinder and medium-priced six-cylinder automobiles. The possibilities for the sale of reliable automobiles in this country are excellent, and, providing they maintain a reasonable standard of efficiency, we have not the slightest doubt of being able to dispose of a large number amongst our various clients and connections. We are also interested in securing sole agencies for the territory previously enumerated for automobile tires and tubes, rubber products and automobile accessories.

Machinery.

E. S. ALMEIDA, care of The I. B. P., New Lomerah, Persian Gulf (via Bombay, India).—Desires quotations on a 15 horse-power engine worked by crude oil without magnet to drive. Engelberg rice huller and polisher; No. 1 American make and other qualities of less capacity of rice hullers and polishers of Engelberg make. Kindly quote prices of all the rice hullers and polishers (Engelberg), and I shall choose what is suitable for my mill. One flour mill for grinding wheat worked by seven horse-power. One small sawmill for cutting planks out of a trunk, size 10x7½ feet, saw to cut small strips of planks, one butt saw for making bent work, one fret saw, one machine for polishing planks and other square poles. One small, one used for extracting coconut oil, one small machine to make bar soaps, one small machine for cow marking and swissing ropes. All these machines to work one by one at a time by one engine (15 horse-power). Machinery should be simple, strong, good working and not complicated. I am taking this machinery to Goa, Portuguese Possession in India. Kindly send catalogs and plans.

Power Farming Association to Hold Meeting.

The Power Farming Association of America will hold a meeting, with tractor demonstration, at Cordele, Ga., July 20 to further the use of power on the farms of the South. Invitations have been extended to the tractor manufacturers throughout the country.

Construction Department

EXPLANATORY.

The MANUFACTURERS RECORD seeks to verify and obtain additional information regarding all enterprises reported in its Construction Department, by direct daily correspondence. Further facts of news value are published later from telegraph, mail and representatives' reports. We appreciate having our attention called to errors that may occur.

DAILY BULLETIN.

The Daily Bulletin of the MANUFACTURERS RECORD is published every business day in order to give the earliest possible news about new industrial, commercial, building, railroad and financial enterprises organized in the South and Southwest. It is invaluable to manufacturers, contractors, engineers and all others who want to get in touch at the earliest moment with new undertakings, or the enlargement of established enterprises. The subscription price is \$20.00 per year.

Airplane Plants, Stations, Etc.

Fla., Pensacola.—Kite-balloon Hangar, etc.—Navy Dept., Bureau Yards and Docks, Washington, D. C.; construct gyro-room, gyro rack and torpedo rack at Naval Air Station; 66x100-ft. kite-balloon hangar; dismantle gas-holder at Key West, Fla.; transport to Pensacola and erect on new foundation; dismantle oil-reclaiming and hydrogen-gas generator at Key West, remove and store at Naval Air Station; construct 8 anti-craft gun foundations; \$41,307; C. H. Turner Co., Contr., 17½ S. Palafox St.

Va., Quantico.—Kite-balloon Hangar, etc.—Navy Dept., Bureau Yards and Docks, Washington, D. C.; construct kite-balloon hangar, storehouse and garage; \$42,000; specification 4225; McLean Construction Co., Contr., 1415 Fidelity Bldg., Baltimore, Md. (Bids lately noted.)

Bridges, Culverts and Viaducts.

Ala., Huntsville.—Madison County Board of Revenue, C. H. Pulley, Prest.; construct 120-ft. span bridge; riveted steel truss; reinforced concrete substructure; 16-ft. roadway; bids until July 31. (See Machinery Wanted—Bridge Construction.)

Ga., Brinson.—Decatur County Comms. Roads and Revenues, R. G. Hartsfield, Clerk, Bainbridge, Ga.; construct reinforced concrete deck-girder bridge over Spring Creek; bids until July 30. (See Machinery Wanted—Bridge Construction.)

Ga., Perry.—Houston County Comms. Roads and Revenues; construct reinforced concrete bridge with earth approaches at Big Indian Creek on Perry-Henderson road; Federal-aid Project 160; bids until July 27; changed date from July 1; E. N. Parker, Div. Engr., 302 Burch Bldg., Dublin, Ga. (See Machinery Wanted—Bridge Construction.)

Ga., Perry.—Houston County Comms. Roads and Revenues; erect 8 bridges; 60 to 130 ft.; concrete slab floor on concrete piles; 4 bridges with abutments; \$100,000; bids until Aug. 6; E. N. Parker, Div. Engr., 302 Burch Bldg., Dublin, Ga. (See Machinery Wanted—Bridge Construction; Cement; Steel.)

Ga., Perry.—Houston County Comms. Roads and Revenues, C. E. Brunson, Clerk; construct reinforced concrete bridge at Big Indian Creek; Federal-Aid Project 160; 47,091 lbs. reinforcing steel; bids until July 27; changed date from July 1; E. N. Parker, Div. Engr., Dublin, Ga. (See Machinery Wanted—Bridge Construction.)

Ky., Cadiz.—Comms. Public Roads, Joe Boggs, Frankfort, Ky.; construct bridges and culverts in Trigg county; East St. Louis Bridge Co., Contr., East St. Louis, Ill.

N. C., Danbury.—Stokes County Comms.;

erect 100-ft. bridge across Big Belews Creek in Sauratown Township; 2 bridges in Beaver Island Township.

Tex., Ballinger.—Runnels County Comms.; erect 515-ft. bridge across Colorado River; steel truss; \$73,000; McCall-Moore Engineering Co., Contr., Waco, Tex.; J. L. Dellis, Engr., Ballinger. (Lately noted.)

W. Va., Wheeling.—City; repair 3 bridges; Harry A. Conrad, City Engr.

Canning and Packing Plants.

Fla., Clearwater.—Dillard Packing Co. Incptd.; capital \$20,000; A. N. Dillard, Prest.; L. T. Gregory, Secy.-Treas.

Fla., Live Oak.—W. G. Eager, Ocilla, Ga.; establish packing and cold-storage plant.

Ky., Oneida.—Oneida Canning & Broom Mfg. Co. organized; W. D. Felner, Prest.; L. D. Sandlin, Treas.-Mgr.; has 40x20-ft. building, with 40x10-ft. side room; can and dry fruits and vegetables; install steam-pressure canner and power can sealer; daily capacity 3000 to 6000 cans; install broom mchy. (Lately noted Incptd., capital \$6000.)

N. C., Newton.—Hollingsworth Mercantile Co., Court Square; organize company to establish cannery and vinegar plant. (See Machinery Wanted—Canning Machinery; Vinegar Equipment.)

S. C., Beaufort.—Seacoast Packing Co. Incptd.; capital \$150,000; J. R. Bellamy, E. S. McNeil, W. A. Campbell; erect plant.

Clayworking Plants.

La., Lake Charles.—Bricks, etc.—Builders' Products Co. organized; Sam Cummings, Mgr.; acquired site; erect factory; mchy. purchased; mfrs. bricks and other building material from sawdust.

Coal Mines and Coke Ovens.

Ky., Leslie County.—Virginia Coal & Coke Co. Incptd.; capital \$10,000,000; John B. Newton, Prest.; D. D. Hull, V.-P. and Treas.; J. W. Cure, Secy.-Treas.; all Roanoke, Va.; develop 70,000 acres in Leslie, Letcher, Perry and Pike counties.

Ky., Madisonville.—Chickasaw Coal Co., incorporated; capital \$3000; James D. Overall, J. Basil Ramsey, B. C. Mitchell; develop 150 acres; daily output 400 tons.

Ky., Pinson Junction.—Victor Coal Co. Incptd.; capital \$50,000; George C. Bausewine, C. M. and Thomas Gates; all Williamson, W. Va.

Ky., Prestonburg.—Cow Creek Coal Co. incorporated; capital \$100,000; S. E. Allen, Saml. L. Spradlin, J. M. Weddington.

Ky., Prestonburg.—Blue Beaver Elkhorn

Fuel Co.; increased capital from \$100,000 to \$250,000.

Ky., Seco.—South-East Coal Co., 1732 Commercial Trust Bldg., Philadelphia, Pa., organized; A. D. W. Smith, Prest.; Carl B. Metzger, Secy.-Treas.; H. Laviers, Mgr., Seco; develop 3000 acres; daily output 2000 tons; W. B. Goldsmith, Const. Engr. (W. B. Goldsmith lately noted leased coal lands.)

Ky., St. Charles.—Mason Mining Co. Incptd.; capital \$100,000; R. S. and Robert S. Mason, A. P. Day.

Ky., Williamsburg.—Perkins-Harlan Coke Co.; increased capital from \$200,000 to \$400,000.

Okla., Tulsa.—Alabama Coal Co., Box 1934, organized; develop coal land; install tipples, motor trucks, etc. (See Machinery Wanted—Tipples; Motor Trucks; Mining Machinery.)

Texas.—Lignite Products Co., Walker Powell, Prest., 1100 Title Guaranty Bldg., St. Louis, Mo.; Henry A. Allen, Engr., 23 Metropolitan Bldg., Chicago, Ill.; install destructive distillation plant, using lignite as base; \$800,000; patented method; first unit 600 tons daily; carbon recovery by briquette for fuel; install steam shovels, electrical generators, motors, etc.; 5 locations in view in Texas, Louisiana and Arkansas. (See Machinery Wanted—Generators; Motors; Shovel.)

Va., Wise.—Bear Creek Coal Corp. chartered; capital \$50,000; R. S. Arrants, Prest.; J. F. Anderson, Secy.; both Kingsport, Tenn.

W. Va., Abbott.—Valley Fuel Co., Piedmont, W. Va.; capital \$100,000; W. S. Brydon, Prest.; E. R. Brydon, V.-P. and Mgr.; H. G. Brydon, Secy.-Treas. and Const. Engr.; daily output mines 300 tons.

W. Va., Beckley.—Gracum Coal Co.; purchased 1900 acres coal land on Fat Creek; develop.

W. Va., Bluefield.—Pointlick Coal Co. organized; H. M. Davidson, Prest.-Mgr., Charleston, W. Va.; J. P. Cofer, Secy.-Treas., Bluefield; install \$30,000 plant; electrical equipment; \$12,000; daily output 500 tons; B. M. Greer, Constr. Engr., Charleston, W. Va. (See Machinery Wanted—Generator Set; Locomotive; Hoisting Machinery.)

W. Va., Fairmont.—Fairmont & Cleveland Coal Co., W. E. Watson, Prest.; increased capital from \$600,000 to \$1,250,000.

W. Va., Grafton.—University Coal Co. incorporated; capital \$50,000; Eugene Sommersville, M. S. Holden, both Grafton; Clyde Marteny, Morgantown, W. Va.

W. Va., Huntington.—South Fork Coal Co., Donald Clark, Prest.; increased capital from \$500,000 to \$700,000.

W. Va., Monongalia County.—Judson Coal Co. Incptd.; capital \$100,000; C. H. Jenkins, F. J. Patton, T. E. Johnson; all Fairmont, W. Va.

W. Va., Morgantown.—Dennison Coal Co. Incptd.; capital \$25,000; J. W. Dennison, D. B. Yoder, J. M. Tennant.

W. Va., Page.—Virginian Ry. Co., Chas. H. Hix, V.-P., Terminal Bldg., Norfolk, Va.; purchased Loup Creek Colliery Co.; properties partly under development since 1911 at cost of \$1,000,000; will develop one operation for Virginian Ry. fuel; daily capacity 2200 tons

coal; lease commercially the remainder, 27,000 acres coal land. (Supersedes recent item.)

W. Va., Shinnston.—Love Coal & Coke Co. inctd.; capital \$200,000; Thomas Love, W. A. Furlong, both Connellsville, Pa.; purchased coal tract; install mining plant, including 50-ft. shaft; erect 50 miners' houses.

W. Va., Sullivan.—C. M. Lilly Coal Co., Beckley, W. Va. (lately noted inctd., capital \$150,000) organized; C. M. Lilly, Prest.-Mgr.; C. M. Meador, V.-P.; W. I. Smith, Secy.-Treas.; develop 106 acres; daily output 300 tons. (See Machinery Wanted—Boiler; Cement; Tile.)

Cotton Compresses and Gins.

Ark., Scott.—Scott Gin Co. inctd.; capital \$50,000; A. L. and W. M. Alexander.

Miss., Schlater.—Planters' Staple Gin Co. inctd.; capital \$10,000; J. M. Johnston, D. P. Lett.

Okla., Lone Wolf.—Farmers' Cotton Oil Co.; rebuild burned ginneries and oil mills.

Okla., Lone Wolf.—Farmers' Cotton Oil Co.; rebuild burned oil mills and ginneries; loss \$45,000.

Tex., Bishop.—Farmers' Gin & Ice Co. inctd.; capital \$20,000; H. A. Scharlach, G. B. Davis, J. C. Ferguson.

Tex., McKinney.—White & Wilson Gin Co. organized; J. D. White, Prest.; W. C. Wilson, Secy.-Treas.; purchased plant; gin cotton; daily capacity, 40 bales cotton. (Lately noted inctd., capital \$21,500.)

Tex., Turnersville.—Farmers' Gin Co. inctd.; capital \$10,000; Tom Boone, D. C. Epps, Bethel Duncan.

Cottonseed-Oil Mills.

N. C., Sanford.—Lee County Cotton Oil Co.; increase capital to \$100,000.

S. C., Donalds.—Donalds Cotton Oil Co. inctd.; capital \$50,000; J. E. Lipscomb, B. H. Smith, C. W. Tribble.

Drainage Systems.

Ark., Helena.—Phillips County Commrs., Little Cypress D. Drainage Dist.; construct 30 mi. canals; 400,000 cu. yds. excavation; bids until July 22; Quarles Hurlbutt Engineering Co., Engr. (See Machinery Wanted—Drainage System.)

Ark., Desha County.—Tensas Basin Levee Dist. Commrs., O. M. Smith, Prest., Rayville, La.; construct Mill Bayou Levee; contents 100,000 cu. yds.; bids until July 10; Board of State Engrs., Room 215 New Orleans Court Bldg., New Orleans, La.

Fla., Fort Pierce.—North St. Lucie River Drainage Dist., J. E. Andrews, Secy.; construct 12 mi. drainage system; 75,000 acres; \$1,100,000 bonds; Canal Construction Co., Contr., 189 W. Madison St., Chicago, Ill. (Previously noted voting \$1,200,000 bonds.)

Fla., Miami.—State Reclamation Bureau, Tallahassee; construct 116 mi. drainage system through Everglades; includes 70-mi. canal, beginning at Miami; 28-mi. canal, starting at St. Lucie, and 18-mi. canal to touch Fort Myers; \$3,500,000 to \$4,000,000; Arundel Corp., Contr., Fidelity Bldg., Baltimore, Md.; continues contract awarded last year to Bowers-Southern Dredging Co., Galveston, Tex., portion of its properties being acquired by Arundel Corp.

La., Alexandria.—Red River Atchafalaya & Bayou Boeuf Levee Dist. Commrs., E. G. Richard, Prest.; construct Duncan Levee, contents 13,000 cu. yds.; Choctaw Bayou Dike, contents 27,000 cu. yds.; 2 sections Krotz Springs Box Spurs, contents 2800 cu. yds., creosoted timber sheet piling, 118,000 ft. B. M.

and rock rubble filling, 240 tons; bids until July 29.

Mo., Cape Girardeau.—Little River Drainage Dist. Supvrs., John H. Himmelberger, Prest.; L. L. Hildinger, Ch. Engr.; construct 70,000 sq. yds. channel protection; 35,000 sq. yds. each willow mattress and hand-placed rock slope paving; bids until July 19; Morgan Engineering Co., Engr., Memphis, Tenn. (See Machinery Wanted—Channel Protection.)

Tex., Beaumont.—Jefferson County Drainage Dist. No. 6; construct drainage system; voted \$1,000,000 bonds; C. W. Hollis, Engr. (Previously noted to vote bonds.)

Electric Plants.

Ark., Yale.—Southern Oil Corp.; install electric lighting system for plant and employees' houses.

Ky., Lewisburg.—Lewisburg Electric Lighting Co. inctd.; capital \$10,000; E. W. Duncan, O. A. Bland, Jas. Westrey.

Md., Dundalk.—Consolidated Gas, Electric Light & Power Co., E. D. Edmorston, Gen. Supt., 1901 Lexington Bldg., Baltimore; purchased 13-acre water-front site; erect plant to generate electricity by steam; double site by filling in low places and building bulkhead; initial unit, generating 20,000 K. W., ready for use in 2 years.

Md., Frederick.—City; repair light plant and street-lighting facilities; plans installing generator for alternating current; Chas. L. Reeder, Const. Engr., Park Ave. and Saratoga Sts., Baltimore.

Md., Laurel.—Town, W. Gilbert, Mayor, Laurel, and 308 W. Lombard St., Baltimore; improve electric plant; C. L. Reeder, Engr., 200 W. Saratoga St., Baltimore. (Lately noted issuing \$20,000 bonds.)

Miss., Shubuta.—Town, J. P. Spinks, Mayor; install electric-light plant; vote July 13 on \$12,000 bonds. (Lately noted contemplated.)

Mo., Marshall.—City; install electric-light and water plant; voted \$90,000 bonds. Address The Mayor.

N. C., Bolling Springs.—O. P. Hamrick; interested in plan for electric lighting system.

Okla., Mountain View.—City; improve electric-light system; voted \$30,000 bonds. Address The Mayor.

S. C., Pickens.—Pickens Cotton Mill; install electric-lighting system and ice plant; build 5 overseers' houses.

Tex., Hull.—G. L. Gilbreath, R. M. Campbell; organize company; establish light, water and ice plant.

Fertilizer Factories.

Fla., Bartow.—Coronet Phosphate Co., Plant City, Fla.; establish phosphate plant on Lake Wales Rd.

S. C., Seneca.—Oconee Oil & Fertilizer Co. inctd.; capital \$300,000; R. T. Jaynes, Prest.-Treas.; F. J. Hopkins, Secy.

Tex., Houston.—Texas Chemical Co., Scanlon Bldg.; plans to erect second unit to sulphuric acid plant.

Va., Petersburg.—W. H. Camp Fertilizer Co.; increase capital from \$100,000 to \$200,000.

Flour, Feed and Meal Mills.

Ga., Augusta.—Georgia Feed & Milling Co., E. C. Culvern, Secy.-Treas.-Mgr.; erect 160x60-ft. ironclad building; \$12,000; purchased \$15,000 grinding and feed-mixing mchy.; daily capacity 100 tons mixed stock feed; J. L. Richardson, Constr. Engr., Box 360. (Lately noted to erect \$9000 warehouse.)

Ky., St. Charles.—Mason Milling Co.

inctd.; capital \$100,000; R. S. and Robert Mason, A. P. Day.

Mo., Kansas City.—J. C. Lysle Milling Co., E. D. Lysle, Prest.-Mgr., Leavenworth, Kan.; erect \$600,000 fireproof flour mill and elevator; reinforced concrete construction; initial daily capacity 1500 bbls.; ultimate daily capacity 3000 bbls. flour; Lehrback Contracting & Engineering Co., Contr., Kansas City, Mo.

N. C., Winston-Salem.—Forsyth Roller Mills; increase capital from \$150,000 to \$500,000.

Tex., Blum.—Blum Milling Co. inctd.; capital \$6400; J. O. McCullough, J. A. and Bayard Taylor.

Okla., Madill.—Madill Grain & Elevator Co., O. S. Grimmitt, Secy.-Treas.-Mgr.; erect 65,000-bu. storage grain elevator addition; fireproof; reinforced concrete; \$15,000; Jones-Hettelsater Construction Co., Contr., 706 Mutual Bldg., Kansas City, Mo.

Okla., Mazie.—Farmers' Co-operative Grain Co. inctd.; capital \$5000; B. Boyle, Geo. L. Mason; both Mazie; Ray Winters, Choteau, Okla.

Tex., Victoria.—Crouch & Crouch, Yoakum, Tex.; leased warehouse; install feed mill.

Foundry and Machine Plants.

Ala., Gadsden.—Flumbing Specialties.—A. E. Stringer, Chicago, Ill.; establish foundry; mfr. plumbing specialties.

Ark., Piggott.—Stoves.—Famous Stove Co. inctd.; capital \$20,000; A. B. Gallegly, T. W. Johnson, F. B. Sprague.

Ga., Atlanta.—Tank Cars.—Southern Agricultural Tank Line Co. inctd.; capital \$1,000,000; M. F. Goldstein, H. F. Garrett, Marion Smith; mfr. tank cars.

La., Crowley.—Iron.—Acadia Iron Works; erect additional building; fireproof; install mchy.; purchased.

Md., Baltimore.—Machinery.—Sun Machinery & Iron Works, 605 E. Water St., inctd.; capital \$25,000; Harold Johnson, Knut Strand, Rolf Boe.

Md., Baltimore.—Safes.—Miller Safe & Lock Co., Wilkins Ave. and Catherine St., subsidiary of York Safe & Lock Co., York, Pa.; erect 1-story 123x400-ft. building; brick, steel and concrete construction; J. A. Dempwolf, Archt., York, Pa. (Supersedes recent item.)

Miss., Laurel.—Foundry.—Southern Equipment Co. inctd.; capital \$10,000; J. M. Calhoun, R. J. Coffman.

Miss., Slater.—Iron.—Planters' Staple Iron Co. inctd.; capital \$10,000; J. H. Johnson, E. T. Lott.

Md., Baltimore.—Tools.—Liberty Tool Corp., E. Oliver Grimes, Jr., V.-P. and Gen. Mgr., Munsey Bldg.; increased capital by \$600,000.

Okla., Sand Springs.—Stove Castings, etc.—Tulsa Stove & Foundry Co., A. C. Spitznagle, Prest.-Mgr.; erect 74x323-ft. steel and reinforced-concrete building; \$80,000; install foundry and machine-shop equipment; purchased; Brennen & Rooney, Contrs. (Lately noted to erect.)

S. C., Anderson.—Farm Implements.—Anderson Farmers' Implement Co. inctd.; W. W. Leathers, Prest.; E. C. McCants, V.-P.; Geo. M. Tolly, Secy.

Tex., Austin.—Cottonseed Cleaners.—Rylander Co. chartered; \$10,000 initial capital; plans increase to \$500,000; J. B. Rylander, C. B. Wolverton; offices at Sixth St. and East Ave.; build plant to mfr. cottonseed cleaners.

Tex., Corsicana.—Iron Work.—Oil City Iron Works inctd.; capital \$60,000; W. M. Clarkson Sr., W. M. Clarkson, Jr., S. E. Kerr.

Tex., Galveston.—Marine Repairs.—Vulcan Iron Works, 2016 Ave. C.; has building with

15,000 sq. ft. floor space; install machine shop equipment; partially purchased. (Supersedes recent item.)

Va., Lynchburg.—Lynchburg Foundry Co., L. N. McWane, Prest.; increased capital from \$915,000 to \$1,515,000.

Va., Toms Creek.—Foundry.—Virginia Iron, Coal & Coke Co.; rebuild burned foundry, machine and carpenter shops; loss \$100,000.

W. Va., Clarksburg.—Machinery.—Joiner-Jacobs Iron Works Incptd.; capital \$25,000; Allen W. Joiner, John W. Jacobs, Frank C. Silkne.

W. Va., Kenova.—Mine Cars.—Fulton-Kenova Mine Car Co.; increased capital from \$450,000 to \$1,500,000.

Gas and Oil Enterprises.

Ark Yale — Filling Station.—Southern Oil Corp.; improve refinery; erect filling station; install electric lighting system for plant and employees' houses.

Ky., Louisa.—Glenwood Oil Co. incptd.; Jas. H. Woods, M. B. Sparks, W. M. Taylor.

Ky., Russellville.—Big Chief Oil Co. incptd.; capital \$75,000; Geo. Weber, Thomas Wright, Frank J. Miner.

Md., Baltimore.—Substation.—Consolidated Gas Electric Light & Power Co., E. D. Edmorton, Gen. Supt., 1901 Lexington Bldg.; erect 1-story 111x56-ft. substation; Philadelphia Rd.; concrete construction; \$42,000; invites bids.

Mo., St. Louis.—Distributing Station.—Texas Co., 17 Battery Place, New York; erect distributing station; Dickie Construction Co., Gen. Contr., Syndicate Trust Bldg., St. Louis, Mo.

N. C., Apex.—Apex North Carolina Oil Co. organized; D. F. Betts, Prest., Raleigh, N. C.; H. Burton Harward, Secy.-Treas.; both Apex; drill wells. (Lately noted incptd., capital \$200,000.)

Okla., Henryetta.—Refinery.—Cogswell Refining Co., organized; capital \$1,000,000; Jno. F. Cogswell, Prest.; P. M. Cogswell, Secy.-Treas.; T. T. Martin, Gen. Supt.; secured 12-acre site; erect buildings; skimming plant to mfr. gasoline, naphtha and kerosene; later compounding plant to produce high-grade lubricants, paraffine, etc.

Okla., Tulsa.—Refining.—Topek Oil Refining Co. incptd.; capital \$50,000; B. H. Crawford, H. S. Siddons, W. R. Banker.

Tex., Dallas.—Refinery.—Aetna Petroleum Corp. chartered; capital \$7,000,000; R. B. Stichter, Prest.; Jas. A. Jones, Jr., V.-P. and Gen. Mgr.; F. L. Fairbank, Secy.; E. A. Elliott, Treas.; acquired plants of Republic Oil & Refining Co. and Eastland Oil & Refining Co.; will absorb Southwestern Oil Corp.; includes 3000-bbl. refinery and 1600-bbl. daily production; erect topping plant; install chain of filling stations to distribute gasoline and oils.

Tex., Fort Worth.—Robinson-Harrington Oil Co. incptd.; capital \$1,000,000; B. M. Robinson, F. R. Harrington, W. B. Paddock.

Tex., Fort Worth.—Filling Stations.—Aetna Petroleum Corp., Jas. A. Jones, V.-P. and Gen. Mgr.; erect chain of filling stations to distribute gasoline and oils.

Tex., Houston.—Aladdin Petroleum Co. incptd.; capital \$10,000; W. F. Lusch, W. J. Waldern, R. C. Patterson.

Tex., Houston.—Filling Stations.—Aetna Petroleum Corp., Jas. A. Jones, V.-P. and Gen. Mgr.; erect chain of filling stations to distribute gasoline and oils.

Tex., Houston.—Century Petroleum Co. incptd.; capital \$5000; Raymond Neilson, R. J. Trimble, C. H. Wilson.

Tex., Paris.—Paris Oil Syndicate, 504 City

National Bank, organized; E. A. Mossman, Mgr.; drill 3000-ft. well; lately noted incptd.; capital \$10,000. (See Machinery Wanted—Piping; Tanks.)

Tex., San Antonio.—Filling Stations.—Aetna Petroleum Corp., Jas. A. Jones, V.-P. and Gen. Mgr.; erect chain of filling stations to distribute gasoline and oils.

W. Va., Charleston.—Harding Oil & Gas Co. incptd.; capital \$150,000; L. S. Echols, H. D. Rummell, Ira Lane.

Hydro-Electric Plants.

Ala., Geneva.—Central Power Co., C. D. Chapman, Prest.; D. H. Morris, V.-P.; D. O. Vaughan, Secy.-Treas.; plans dam and powerhouse; develop 1000 H. P.; 18 to 24-mi. transmission system; connect Samson, Geneva and Hartford. (Supersedes previous item.)

Ala., Prattville.—Autauga Cotton Mills, A. E. Ledyard, Prest.-Treas.; rebuild hydro-electric plant destroyed by flood; reinforced concrete dam and powerhouse; develop 300 H. P.; \$32,000; Woolsey Fennell, Contr., Tuscaloosa, Ala.; J. L. Taylor, Engr., Prattville.

Ark., Heber Springs.—Arkansas Hydro-Electric Development Co., R. R. James, Prest., Cotton Plant, Ark.; Dickinson & Watkins, Engrs., Little Rock; J. E. Sirrine, Consltg. Engr., Greenville, S. C.; completed engineers' reports and perfecting financial arrangements; build hydro-electric plant on Little Red River; develop 22,000 H. P.; first installation, \$1,200,000; two dams, White and Cleburne counties; first and second dams and 130 mi. transmission line to cost \$3,000,000; No. 1 dam 500 ft. at top, with powerhouse, 10,500 K. W.; No. 2 dam 550 ft. at top, with powerhouse, 6000 K. W.; all reinforced concrete construction. (Supersedes previous items.)

Mo., Edith.—C. F. Robertson and Walter Bray, 311½ College St., Springfield, Mo.; own land and water-power rights on Big Nangua River; 6 mi. southwest of Linn Creek and 120 mi. from Kansas City; propose to build hydro-electric plant; develop 38,000 H. P. for transmission by electricity throughout district; completed \$10,000 preliminary engineering; previous plans contemplated dam 2800 ft. long and 150 ft. high; stone and concrete construction; cost of construction, machinery, transmission system, etc., estimated at \$2,500,000.

S. C., Townville.—Frank McLeese; organize company; construct electric-power line from Portman to Townville; purchase electricity from Southern Public Utilities Co., Anderson, S. C.

Ice and Cold-Storage Plants.

Ala., Bayou Labatre.—Alabama Canning Co.; erect 20-ton capacity ice plant; \$10,000.

Ark., Bentonville.—Great Southern Preserving Co., J. P. Ewton, Prest., Dallas, Tex.; erect cold-storage plant; contemplated.

D. C., Washington.—Bureau of Markets; erect terminal market; equip with cold storage for fruits, meats and other foods; plans indorsed by Fine Arts Commn.; \$3,000,000.

Fla., Buena Vista.—Buena Vista Ice Co. incptd.; capital \$150,000; Charles W. Hill, Prest., Buena Vista; R. B. Leonard, V.-P.; Bedford, Ind.; John C. Brown, Secy.-Treas., Buena Vista; erect plant; \$150,000; daily capacity 75 tons; John C. Brown Engineering Co., Contr.

Fla., Live Oak.—W. G. Eager, Ocilla, Ga.; establish cold-storage and packing plant.

Fla., Miami.—Miami Fish Co.; erect 2-story 78x30-ft.-3-in. ice plant; concrete construction; daily capacity 50 tons.

Miss., Natchez.—Joseph Trudell; erect 10-ton ice plant.

Mo., Kansas City.—City Ice & Storage Co., 21st and Campbell Sts.; remodel 5-story-and-basement building; \$15,000; Geo. Carman, Archt., Essex Bldg.

Mo., Greenfield.—Dade County Farmers' Co-operative Society; erect cold-storage plant.

Mo., Maysville.—Jas. Redding; install refrigerating system in grocery and meat store.

Okla., Newkirk.—Newkirk Ice & Creamery Co.; rebuild burned plant.

Okla., Newkirk.—Newkirk Ice & Creamery Co.; erect plant addition; \$125,000; contract let.

S. C., Pickens.—Pickens Cotton Mill; install ice plant and electric-light system for village; erect residences.

Tex., Bishop.—Farmers' Gin & Ice Co. incptd.; capital \$20,000; H. A. Scharlach, G. B. Davis, J. C. Ferguson.

Tex., Brownwood.—McCulley & Co., W. O. McCulley, Mgr.; erect 20x87-ft. building; fireproof; hollow-tile construction; install 6-ton refrigerating plant, capacity for cooling 7500 cu. ft. air space to 30 degrees F. Lately noted to erect \$10,000 plant. (See Machinery Wanted—Refrigerating Plant.)

Tex., Cleburn.—High Ice Cream Co.; leased additional building; install refrigeration equipment.

Tex., Crowell.—City; contemplates building ice plant, creamery and water-works; vote on bonds. Address The Mayor.

Tex., Houston.—Independent Electric Co.; increase daily capacity to 45 tons; erect 500-ton capacity ice-storage plant; contemplated.

Tex., Hull.—G. L. Gilbreath, R. M. Campbell; organize company; establish ice, water and light plant.

Tex., San Benito.—Rio Grande Valley Ice Assn.; erect ice mfg. and storage plant; \$500,000.

Tex., Vernon.—Texas Public Service Co.; install \$150,000 equipment.

Land Developments.

Fla., Sanford.—Marchandell Rose Co. incptd.; capital \$5000; W. M. Haynes, Prest.; Sanford F. Doudney, Secy.-Treas.

Md., Cumberland.—National Real Estate Development Co., Law Bldg., incptd.; capital \$200,000; John W. Snyder, Geo. H. Lougerbeam, Fay Keiser.

Md., Frederick.—City; defeated \$50,000 memorial park bonds. Address The Mayor. (Lately noted to vote.)

Okla., Poteau.—City; develop park; voted \$25,000 bonds. Address The Mayor.

S. C., Clinton.—Clinton Cotton Mills; develop mill village; construct 25 operatives' bungalows; brick foundations; install water, sewer, gas and electric lights; Fiske-Carter Construction Co., Contr., Worcester, Mass., and Greenville, S. C.

W. Va., Charleston.—Blue Creek Orchard Corp. chartered; capital \$20,000; N. F. and H. E. Conner, J. H. Bowles.

W. Va., Charleston.—Tyler Land Co. incptd.; capital \$5000; L. E. Potet, J. D. Woodroe, W. D. Reedy.

W. Va., Morgantown.—Daniels Orchard Co. incptd.; capital \$75,000; Geo. D. Daniels, Linwood, W. Va.; F. Leith Griffith, Geo. L. Weaver, both Martinsburg.

W. Va., Putnam-on-Kanawha.—Putnam Development Co., organized; capital \$300,000; Fred Paul Grosscup, Chrmn. directors; Paul B. Grosscup, prest.; Alvin D. McCormick, secy.-treas.; all Dunbar, W. Va.; establish

industrial center; 2000 acres, extending 2 mi. along Kanawha River; name Putnam-on-Kanawha; reserved 313 acres for factory sites; construct paved roads; install water and sewer systems; supply high pressure natural gas, etc. (Lately noted contemplated.)

Lumber Manufacturing.

Ark., Higden.—B. & D. Sawmill Co., A. V. Alexander, Prop.; rebuild burned plant.

Ark., Malvern.—McCormack Lumber Co.; increased capital from \$10,000 to \$40,000.

Fla., Arcadia.—Russ Lumber Co. Incptd.; H. T. Davis, Prest.; F. R. McConnell, V.-P.; Z. Russ, Treas.-Gen. Mgr.

Fla., Jasper.—Cypress Creek Lumber Corp. chartered; capital \$75,000; Geo. L. Camp, Prest.; B. F. Camp, Jr., V.-P.; R. J. Camp, Secy.-Treas.

Fla., Rosalie.—Kissimmee Valley Lumber Co. Incptd.; capital \$60,000; Robert T. Hughes, Prest.; I. L. Maroney, V.-P. and Gen. Mgr.; A. W. Zimmerman, Treas.; A. J. Conrad, Secy.

Ga., Albany.—H. B. Reynolds Co.; increased capital from \$45,000 to \$500,000.

Ga., Americus.—Smith-Burgin Lumber Co. organized; J. C. Smith, Prest., Shelby, N. C.; J. F. Alexander, V.-P., Forest City, N. C.; Joe S. Burgin, Secy.-Treas. and Mgr., Americus; build mill; construction by company; daily output 50,000 ft.; mchy. purchased. (Lately noted incptd., capital \$100,000.)

Ky., Louisville.—Louisville Point Lumber Co.; increased capital from \$100,000 to \$350,000.

Ky., Mayking.—H. A. Fugate; develop timber tract.

Ky., Whitesburg.—Robert Bates; develop timber tract.

Md., Baltimore.—John E. White Lumber Co., 2333 E. Hamburg St., Incptd.; capital \$25,000; Spencer Heath, Archie D. Fleagle, John E. White.

Miss., Forest.—Legan & McClure Lumber Co.; increased capital from \$300,000 to \$500,000.

Miss., Harrison.—Moseley Lumber Co. Incptd.; capital \$25,000; W. T. and M. C. Moseley, R. P. Prowell.

N. C., Eskota.—Brown Lumber Co.; rebuild burned plant; loss \$80,000.

Tex., Houston.—Bagley Lumber Co. Incptd.; capital \$30,000; W. G. Bagley, H. C. Buents, W. E. Satterwhite.

Tex., Ore City.—Longview Hardwood Lumber Co. organized; H. A. Williams, Prest.-Secy.-Treas.; T. J. Wheeler, Mgr.; purchased established plant; erect small mill shed; has mchy. (Lately noted incptd., capital \$50,000.)

Tex., Vernon.—C. E. Beavers Rig & Lumber Co. Incptd.; capital \$22,500; C. E. Beavers, J. G. Landrum, Neal Spain.

W. Va., Spring Creek.—Spring Creek Lumber Co. chartered; D. E. Lutz, M. M. Brown, D. D. Brown; all Elkins, W. Va.; purchased 10,000 acres Greenbrier County timber land on Spring Creek; cut timber; build large band-saw mill; construct 15 to 18 mi. standard-gauge railroad connecting with Greenbrier branch of Chesapeake & Ohio Ry.

Metal-Working Plants.

Ga., Atlanta.—Metal Planers.—Charles A. Snider; organize company; mfr. double-acting metal planer.

Ky., Louisville.—Automatic Light Switches.—Automatic Light Switch Co., 304 W. Breckinridge St., organized; J. W. Roberts, Prest.; C. I. Pickrell, V.-P.; W. L. Scott, Secy.-Treas.; erect plant; bids until Sept. 1; mfr. automatic light switch. (Lately noted incptd., capital \$50,000.)

Md., Baltimore.—Galvanized Ware, etc.—National Enameling & Stamping Co., 5th Ave., New York; Wm. H. Matthai, Mgr., 1901 Light St., Baltimore; erect 3-story 60x72-ft. building; ordinary mill construction; John Waters Building Co., Contr., 23 E. Center St.; Chas. M. Anderson, Archt., 324 N. Charles St. (Previously noted to erect plant addition.)

Md., Baltimore.—Enameling and Stamping.—National Enameling & Stamping Co., Wm. H. Matthai, 1901 Light St.; erect 3-story 76x60-ft. plant addition; brick; factory and cafeteria; C. M. Anderson, Archt., 324 N. Charles St.; John Waters Building Co., Gen. Contr., 23 E. Center St. (Lately noted inviting bids.)

Miss., Ellisville.—Weevil Catcher.—Till Boll-Weevil Catcher Co. Incptd.; capital \$7500; A. J. Yaretsky, A. E. Shoemaker.

N. C., Charlotte.—Tin Boxes.—P. D. Christian Co., Atlanta, Ga.; establish plant to mfr. tin and cardboard boxes for own product. (See Miscellaneous Factories.)

Tex., Beaumont.—Brass.—Oil City Brass Works; erect plant.

Tex., El Paso.—Sheet-metal Products.—Hills-Sutton Co.; erect first unit of plant; steel construction; \$10,000; brick office building; adobe dwellings; mfr. sheet-metal products.

Mining.

Ala., Anniston.—Manganese.—Southern Manganese Corp.; issue \$500,000 bonds.

Ala., Birmingham.—Brookwood Mining Co.; increased capital to \$20,000.

Md., Thurmont.—Stone.—Greenstone Products Corp., First National Bank Bldg., Roanoke, Va.; H. Wanke, Supt., Thurmont; develop 300 acres; daily output 1000 tons; install crushing, screening and grinding mchy. Lately noted under Va., Deerfield, to establish \$100,000 plant. (See Machinery Wanted—Quarry Plant; Shovel; Rails; Cars; Mill Supplies.)

N. C., Franklin.—Kaolin.—Tri-State Mineral Co. Incptd.; capital \$400,000; C. E. Bonesteel, Prest.-Mgr.; Oscar A. DeLong, V.-P.; Harry Estes, Secy.-Treas.; develop 2500 acres; erect plant; daily output 2 to 4 tons. Supersedes recent item. (See Machinery Wanted—Presses; Pipe.)

N. C., Monroe.—Waxhaw Mining Co. incorporated; capital \$2,000,000; N. H. Neal, Monroe; J. Frank Schmidt, Raymond Gray, both Baltimore, Md.

Tex., Fort Worth.—Rock.—North Texas Rock Co. Incptd.; capital \$1,000,000; L. L. Donnell, W. W. Hyde, B. R. Jones.

Miscellaneous Construction.

Fla., Tampa.—Wharves, etc.—United States Engrs. Dept., Capt. O. N. Bie, Engr., Jacksonville, Fla.; expend \$25,000 on Selden Island improvements; 2 wharves each 80 ft. long, coal bins, warehouses; blacksmith and carpenter shops contemplated; bids until July 21.

Ga., Atlanta.—Heating Plant.—City; install heating plant; \$16,520; American Warming & Ventilating Co., Contr., Elmira, N. Y.

Md., Baltimore.—Bulkhead.—City, Board of Awards; construct stone, concrete and timber bulkhead north side Center Pier, Back Basin; bids until July 14; Bancroft Hill, Harbor Engr. (See Machinery Wanted—Bulkhead.)

Md., Baltimore.—Heating Plant.—John S. Bridges, 325 E. Oliver St.; erect heating plant; Chas. L. Redder, Engr., 200 W. Saratoga St.

Miss., Jackson.—City Comms.; install heating system in College Street School; issue \$7000 bonds.

Miscellaneous Enterprises.

Ala., Montgomery.—Laundry.—Woman's College of Alabama, M. W. Swartz, Prest.; erect \$16,000 laundry; brick and cement; purchased equipment.

Fla., Dade City.—Construction.—Young-Marin Co. Incptd.; capital \$10,000; George F. Young, Prest.; R. G. Merrin, V.-P.-Treas.; F. W. Young, Secy.

Fla., Fernandina.—Terminals, etc.—Fernandina Wharf & Terminal Co. Incptd.; capital \$60,000; Charles J. Davis, Prest.; Jackson Mizell, V.-P.; Louis S. Chadwick, Secy.-Treas.

Fla., St. Augustine.—Publishing.—Record Co.; increased capital from \$25,000 to \$100,000.

Ky., Ashland.—Printing.—Blake Printing Co. Incptd.; capital \$10,000; Charles S. and B. A. Blake, H. C. Boggs.

Ky., Louisville.—Stockyards.—Bourbon Stock Yards; erect reinforced concrete pens and runways; \$110,000; D. X. Murphy & Bro., Archts.; L. W. Hancock & Co., Contrs. (Previously noted to rebuild burned sheds, etc.)

Md., Aberdeen.—Laundry, etc.—U. S. Government, Construction Officer; erect laundry, bakery, storehouse, sentry and magazine, etc.; \$43,790; Northwestern Construction Co., Contr., 101 Park Ave., New York.

Md., Baltimore.—Dairy.—Snesil Dairy Co., 1048 Granby St.; erect 2-story and basement 22x35-ft. building; brick and concrete fireproof construction; slag roofing; cement floor; Geo. R. Callis, Archt., 611 American Bldg.

Md., Baltimore.—Steam Heat.—Ashburton Steam Heat Co., Ashburton and Willowdale Aves., Incptd.; capital \$100,000; John J. Carlin, Melvin Holland, Sr., Melvin Holland, Jr.

Md., Baltimore.—Building and Contracting.—Denstall Development Co., 304 State Bank Bldg., Incptd.; capital \$50,000; Willett E. Dentinger, Frank H. Stallo, Jr., Jackson Appleby.

Md., Baltimore.—Ship Chandlery.—Franck Ship Chandlery Co., 1602 E. Pratt St., Incptd.; capital \$150,000; William B. Vane, Claude V. Hughes, William R. Franck.

Md., Baltimore.—Towing.—Charles W. Lewis Towing Co., Hughes and Henry Sts., Incptd.; capital \$100,000; Charles W. Lewis, R. Duke Wathen, Harry L. Walker.

Md., Easton.—Fire Equipment.—Town, Jas. B. Clark, Clk.; install motor fire engine; voted \$12,000 bonds. (Previously noted to vote.)

N. C., Raleigh.—Cleaning.—Dunn-Howell Cleaning Co. Incptd.; capital \$6000; Robert E. and W. S. Dunn, Clarence Howell.

Okla., Oklahoma City.—Engineering.—Stoddard Engineering Co. Incptd.; capital \$25,000; Richard H. and Annette Stoddard, George L. Hannaman.

Tex., Dallas.—Commercial Printing, etc.—Commercial Printing & Letter Service Co., 314 N. Texas Bldg. (lately noted incptd., capital \$12,000); organized; W. M. Newman, Prest.; W. A. Turner, V.-P.; Matilda Ganstad, Secy.; Eula Sledge, Treas.; Tessa Pierce, Mgr.; has building; install \$12,000 letter service mchy.; purchased; daily capacity 20,000; complete service. (See Machinery Wanted—Advertisers' Machinery.)

Tex., Dallas.—Engineers and Contractors.—Universal Heating Co. organized; Charles Clark King, Prest., 323 Slaughter Bldg.; E. C. Barnes, C. S. Hopkins, Mech. Engr., 425 S. Akand St.

Tex., Dallas.—Printing.—Quaker Press Incptd.; capital \$10,000; A. L. Bracken, E. H. McDill, O. D. Baker.

Tex., Fort Worth.—Laundry.—Sunshine Laundry Co. Incptd.; capital \$36,000; S. D. Johnson, H. Tolson, H. W. Kelley.

Tex., Houston—Contractors.—Horton-Horton, General Contractors, Geo. F. Horton; erect 250x155-ft. fireproof building; Albert Kahn, Archt., Detroit, Mich.

Va., Roanoke—Plumbing.—Engleby & Bro.; erect \$75,000 building.

W. Va., Huntington—Construction.—Williams Construction Co. inctpd.; capital \$25,000; A. B. and L. V. Williams, P. J. King.

Miscellaneous Factories.

Ala., Anniston—Commercial Slag.—Woodstock Coal Co. organized; G. A. Mattison, Prest.-Mgr.; G. A. Mattison, Jr., Secy.; continues established plants; 70-ton steam shovel, loco crushing, elevating, screening and sizing plant; daily capacity 1000 tons commercial slag. (Lately noted inctpd., capital \$25,000.)

Ala., Gadsden—Chera-Cola.—Gadsden Chera-Cola Co.; increase capital from \$14,000 to \$20,000.

Fla., Jacksonville—Palm Oil.—Royal Palm Oil Co. inctpd.; capital \$500,000; Grant Crane, Prest.; M. J. Naughton, Secy.; Chas. E. Heekin, Treas.; Earl B. Smith, Gen. Mgr., Oklahoma.

Fla., Tampa—Art Novelties.—Palmercraft Co., 22nd St. and 5th Ave.; rebuild burned plant; loss \$55,000.

Ga., Atlanta—Medicine.—Vitona Mineral Ore Co. inctpd.; capital \$100,000; J. J. Bowden, J. M. Crane, Walter E. Daley.

Ga., Atlanta—Candy.—Sophie Mae Candy Corp. organized; capital \$60,000; Shirley Ruffner, Saml. Walker; establish plant.

Ga., Atlanta—Chemical Products.—Puritan Chemical Products Co. inctpd.; capital \$15,000; Sol Steinberg, H. F. Garrett, M. F. Goldstein.

Ga., Brunswick—Ice Cream.—Southern Ice Cream Co.; establish plant.

Ga., Savannah—Ink, etc.—Southern Proof Ink Co., organized; A. Cohen, Cordele, Ga.; establish plant to mfr. forgery proof ink, paste, carbon paper, etc.

Ky., Elizabethtown—Overalls.—Old Kentucky Overall Co.; increase capital from \$50,000 to \$150,000.

Ky., Lexington—Bakery.—Lexington Wholesale Bakery; increase capital from \$12,000 to \$30,000.

Ky., Louisville—Lubricator.—Alemite Lubricator Co. inctpd.; capital \$50,000; Enlee R. and G. D. Hurst, A. M. Ashbaugh.

Ky., Louisville.—Standard Sanitary Mfg. Co., W. A. Wunderlich, Mgr., 319 W. Main St.; erect 1-story 150x75-ft. factory addition; brick and concrete construction; Joseph & Joseph, Architects, Atherton Bldg., taking bids.

Ky., Oneida—Brooms.—Oneida Canning & Broom Mfg. Co. organized; W. D. Feltner, Prest.; L. D. Sandlin, Treas.-Mgr.; has 40x20-ft. building with 40x10-ft. side room. (Lately noted inctpd., capital \$6000.)

Ky., Simpsonville.—Union Stock Food Mfg. Co. inctpd.; capital \$50,000; R. E., S. F. and Harriett Hatton.

La., New Orleans—Corrugated Boxes.—United Paper Products Co., 109 Tchoupitoulas St.; erect 1-story 240 sq. ft. fireproof building containing restrooms, cafeteria, sanitary drinking fountains, garage, etc.; total cost \$125,000; bids until July 10; purchased \$100,000 corrugated mchy.; paper stock, \$50,000; mfr. unlined corrugated paper from strawboard and waste pine stumpage; daily capacity 150,000 sq. ft.; Emile Well, Archt., Whitney Central Bank Bldg. (Lately noted incorporated, capital \$300,000.)

La., Slidell—Graphite, Paint, etc.—Birmingham Graphite Co., M. L. Hinchey, Prest., Birmingham, Ala.; erect plant; equip to mfr.

ferro mastic, asphalt, graphite, paint and paint oils.

La., Plaquemine—Bakery.—Daigle Steam Bakery inctpd.; capital \$10,000; G. A. Daigle, Prest.; Jno. O. Dupuy, Secy.-Treas.

Md., Aberdeen—Bakery.—Constructing Office, Aberdeen Proving Grounds; construct bakery, laundry, magazine, storehouse, sentry, etc.; \$43,000; Northwestern Construction Co., Contr., 101 Park Ave., New York. (Lately noted bids until June 17.)

Md., Baltimore—Drugs.—Vogeler Drug Co., 215 N. Liberty St., organized; capital \$50,000; Edward Jerome Vogeler, Prest.-Mgr.; August Vogeler, V.-P., Secy.-Treas. (See Mchy. Wanted—Cartons; Soaps; Drugs.)

Md., Baltimore—Middy Blouses.—Monumental Middy Co., 4 N. Frederick St., organized; capital \$100,000; Abram E. Dannenberg, Prest.; A. C. Hahn, Secy.; Wm. Wilfson, Treas.

Miss., Jackson—Bakery.—Barker Bakery, Mr. Coe, Mgr., purchased established plant; erect bakery; has site.

Miss., Wiggins—Creamery.—Co-operative Creamery Co. inctpd.; capital \$5000; J. P. Clendenen, L. L. Coleman.

N. C., Asheville—Collapsible Rims.—Collapsible Rims—Collapsible Rim Co. organized; capital \$300,000; Jas. J. Nichols, Prest.; W. W. Bruce, Secy.-Treas.

N. C., Asheville—Creamery.—Carolina Creamery Co.; erect 5-story 150x85-ft. plant addition; concrete construction.

N. C., Charlotte—Candy, etc.—P. D. Christian Co., inctpd.; capital \$250,000; P. D. Christian, Prest., Atlanta, Ga.; establish candy plant; leased 2-story 147x50-ft. brick building; install mchy.; also mfr. cardboard and tin boxes for candy.

N. C., Charlotte—Asbestos.—Southern Asbestos Mfg. Co., W. 11th St.; erect plant additions; 2 buildings; \$45,000 to \$65,000.

Okla., Muskogee—Bakery.—Nafziger Baking Co.; erect plant addition; \$70,000; install \$30,000 mchy. (Lately noted erect building.)

S. C., Anderson—Pads and Collars.—Anderson Pad & Collar Co., Thos. J. Anderson, Propr.; rebuild burned factory; loss \$10,000.

S. C., Charleston—Paints and Oil.—Leland Moore Paint & Oil Co.; erect additional factory building; McDevitt-Fleming Co., Contr.

Tenn., Jackson—Confectionery.—Smith Bros.; install additional ice cream and confectionery plant equipment.

Tex., El Paso—Victory Ring Co. inctpd.; capital \$1,000,000; B. F. Darbyshire, J. W. Kirkpatrick, Crawford Harvie.

Tex., Crowell—Creamery.—City; contemplates erection creamery, water-works and ice plant; vote on bonds. Address The Mayor.

Tex., Fort Worth—Lubricating Oils, etc.—Southern Oil & Grease Co., N. G. Copher, Prest., Beaumont, Tex.; has temporary plant; will erect \$100,000 permanent plant 4 mi. west of city; daily output 5 carloads oil and grease.

Tex., Houston—Bags.—Continental Paper Bag Co.; increase capital from \$20,000 to \$100,000.

Tex., Llano—Drugs.—Llano Drug Co. incorporated; capital \$900; W. B. Ransom, Orville Buttery, J. R. Cone.

Tex., Ranger—Bakery.—Monaca Bakery inctpd.; capital \$75,000; J. A. Craven, A. H. Bowers, W. G. Grubbs.

Tex., Yoakum—Hide and Leather.—Texas Hide & Leather Co.; increase capital to \$100,000.

Va., Bluff City—Cheese.—W. J. Cross, G. W. Jones, B. B. Cross; establish co-operative cheese factory; construct building; mchy. ordered.

Va., Bristol—Paper Boxes.—Bristol Paper Box Co., Goodson St., organized; A. L. Hickman, Prest., Knoxville, Tenn.; J. Fred Fauscher, Jr., Secy.-Treas.-Mgr., Bristol; lease 2-story 130x50-ft. mill-construction building to be erected by D. W. Wagner; purchased \$5000 to \$6000 mchy.; daily output 4000 to 6000 hosiery boxes. (Lately noted inctpd., capital \$25,000.)

Va., Richmond—Cigars.—John Foege & Son, 601 E. Main St.; erect 2-story 150x46-ft. factory building; brick; A. F. Hunt, Archt., Old Dominion Trust Bldg.

Va., Winchester—Apple By-Products.—Ridgewood Orchard, C. F. Massey; plans mfr. apple by-products. (See Machinery Wanted—Apple-butter Machinery, etc.; Canning Equipment; Containers.)

W. Va., Star City—Flint Glass.—Union Flint Glass Co. inctpd.; capital \$25,000; Henry Rettiger, Warren Martin, E. F. Brison.

Motor Cars, Garages, Tires, Etc.

Ark., Little Rock—Tires.—535 Tire & Service Co., 1100 Main St., inctpd.; R. E. Steuben, Prest.; Halcomb Gunn, V.-P.; R. C. Starks, Secy.; F. V. Vandenberg, Treas.

Ark., Malvern—Repairing.—Rector Motor Co. organized; W. C. Hudson, Prest.; Felix G. Smart, V.-P.; Geo. L. Rector; all Pine Bluff, Ark.; erect building for repair plant; 50x150 ft.; fireproof; \$17,500. (Lately noted inctpd., capital \$10,000.)

Ark., Springdale—Garage.—Ozark Trail Motor Co., J. M. Wilson, Propr.; erect garage; 50x100 ft.; fireproof; install garage equipment. (See Machinery Wanted—Lathes; Battery Charging Plant; Air Pump; Motors.)

D. C., Washington—Service Station.—Miller-Dudley Co., 1625 14th St.; erect service department and shop; each 40x60 ft.; 2-story; fireproof; install machine-shop equipment and electric testing apparatus; James L. Parsons, Bldg. Contr.; Frederick Pyles, Archt., Evans Bldg. (Lately noted.)

Ga., Atlanta—Motor Parts.—Motor Parts Corp. organized; capital \$30,000; C. Y. House, Blair Foster, both Atlanta, Ga.; John C. Kelley, Jr., New York.

Ga., Atlanta—Garage.—Houser & Mangum, 456 Courtland St.; erect garage; 1 story; brick; tile; \$12,500; Griffin-Hodges Co., Contr.

N. C., Winston-Salem—Garage.—F. J. De Tamble; erect garage.

Ga., Atlanta—Automobile Assembling.—Red Diamond Motors, Atlanta National Bank Bldg., organized; capital \$5,000,000; W. H. Seabrooke, Prest.; Henry Short, Secy.; R. E. Hicks, V.-P.; T. L. Hamilton, Treas.; preparing plans for automobile works on 21-acre site; steel and concrete; first unit, \$250,000; later erect foundry, machine shop, etc.; H. D. Best Co., Engr., New York. (Supersedes previous item.)

Ky., Lexington—Garage.—C. N. Manning and George K. Graves; erect \$15,000 garage; Frank Corbin, Contr.

Ky., Louisville—Automobiles.—Halley-Troutman Brothers' Motors Co. inctpd.; capital \$1000; Geo. Haller, Frank Troutman, W. J. Troutman.

Ky., Middlesboro—Garage.—Cumberland Garage & Sales Co. inctpd.; capital \$50,000; J. Frank White, L. R. Wells, R. L. Essary.

Ky., Louisville—Garage.—Prince Wells, 717 4th St.; erect garage; 1 or 2-story; 74x200 ft.; brick; fireproof; E. T. Hutchings, Archt., 509 Columbus Bldg.

Mo., Kansas City—Filling Stations.—A. D. Allen & Co., 515 Reliance Bldg., Kansas City, Mo.; erect 100 filling stations; brick; steel; reinforced concrete; stucco; tile roofing;

Hunt Engineering Co., Engr.-Contr., 515 Re-lance Bldg., Kansas City, Mo.

Mo., St. Louis—Automobile Assembling.—Gardner Motor Co.; will organize; assets \$2,300,000; cash and cash assets \$1,000,000; Russell E. Gardner, Prest.; repurchased plant from General Motors Corp.; annual capacity 40,000 cars; plans production 15,000 to 18,000 cars in 1921.

N. C., Asheville—Automobiles.—Weaver Motor Co. inceptd.; capital \$50,000; Arthur H. Adams, Guy Weaver.

N. C., Charlotte—Salesroom, etc.—Motor Sales Co., 1100 S. Tyron St.; erect \$60,000 building for salesroom, repair shop and re-finishing department; 2-story; 90x150 ft.; C. C. Hook, Archt. (Lately noted.)

N. C., Clemmons—Repair Shop.—R. H. Hunter & Sons; erect automobile repair shop; 30x50 ft.

N. C., Salisbury—Tires.—Ricks Tire Co. incorporated; capital \$10,000; John A. Ricks, Rue Rice Ricks, Gena Adams Bargamin, all Greensboro, N. C.

N. C., Wilson—Automobiles.—United Motor Corp. chartered; capital \$100,000; S. A. Eure, H. V. Modlin; both Wilson; J. H. S. Hodges, Arden, N. C.

Tex., Beaumont—Automobiles.—Service Motor & Repair Co. inceptd.; capital \$2400; H. B. Hildreth, G. E. Davidson, Ben De Spain.

Tex., Dallas—Automobiles.—Standard Automotive Co. inceptd.; capital \$50,000; M. P. Alexander, W. H. Allen, Clay Preston.

Tex., Fort Worth—Tires.—Lone Star & Gasoline Service inceptd.; capital \$21,000; J. W. Milner, W. C. Blanchette, J. G. Blanchette.

Tex., Runge—Automobiles.—Runge Automobile Co. inceptd.; capital \$25,000; Charles Cook, A. W. Swanson, D. I. Patterson.

Va., Quantico.—Bureau Yards & Docks, Navy Dept., Washington, D. C.; erect garage, store-houses and kite-balloon hangar; McLean Contracting Co., Contr., Fidelity Bldg., Baltimore. (Lately noted.)

Va., Norfolk—Garage.—Standard Oil Co.; erect garage; 1 story; 120x90 ft.; brick; steel; reinforced concrete.

W. Va., Huntington—Salesroom.—Dan A. and G. M. Mossman; erect salesroom and service station; 2-story; 45x200 ft.; brick; concrete; pressed-brick front; plate glass; white tile; \$20,000.

W. Va., Wheeling—Garage.—Hopkins Motor Co.; erect \$6000 garage; later erect another garage.

Railway Shops, Terminals, Roundhouses, Etc.

Tenn., Hollow Rock.—Nashville, Chattanooga & St. Louis Ry., H. McDonald, Ch. Engr., Nashville, Tenn.; build shops, round-house and houses for employees.

Tex., Hodge.—St. Louis Southwestern Ry., A. A. Mathews, Ch. Engr., Tyler, Tex.; construct \$230,000 yard and engine terminal, including 5 mi. track, with 35 turnouts, 50x150-ft. engine-house, 50-ton mechanical coal chute, 2-bucket Robertson cinder conveyor, 60x140-ft. car-repair shed, small shop, lodging and eating house for employees, 12 houses for employees, section-house, deep well, air lift and high water tank; contract awarded to List & Gifford for grading yard tracks; coaling station being furnished and erected by Bay City Foundry & Machine Co.; W. E. Hedrick Construction Co., Fort Worth, Tex., is erecting buildings.

Road and Street Construction.

D. C., Washington.—Dist. Comms., Room

509 Dist. Bldg.; grade 11,200 cu. yds. streets; bids until July 22. (See Machinery Wanted—Grading.)

Fla., Fort Myers.—City, Jno. W. Owens, Clk.; construct 25,745 sq. yds. pavement on Oak, Hendry, Monroe and 1st Sts.; cement concrete, asphaltic concrete, sheet asphalt, asphaltic block, vitrified brick; bids until Aug. 5; J. A. Davison & Son, Engrs. (See Machinery Wanted—Paving.)

Fla., Okeechobee.—City, W. W. Dunnecliff, Clk.; hard-surface 10 mi. streets; install water and sewer systems; bids until July 19; W. B. Clay, City Engr. Supersedes recent item. (See Machinery Wanted—Paving.)

Ga., Blairsville.—State Highway Dept. of Georgia, Atlanta, Ga.; construct 6½ mi. Blairsville-Dahlonge Rd.; Federal-aid Project 111, Union County; bids until July 19; H. W. Morgan, Div. Engr., Jackson Bldg., Gainesville, Ga. (See Machinery Wanted—Road Construction.)

Ga., Blue Ridge.—State Highway Dept. of Georgia, Atlanta, Ga.; construct 5.4 mi. Blue Ridge-Blairsville Rd., Federal-aid Project 118, Fannin County; bids until July 19; H. W. Morgan, Div. Engr., Jackson Bldg., Gainesville, Ga. (See Machinery Wanted—Road Construction.)

Ga., Dahlonge.—State Highway Dept. of Georgia, Atlanta, Ga.; complete 7.96 mi. Dahlonge-Brookton Rd., Lumpkin County; Federal-aid Project 82; redress and topsoil 3.12 mi. road; Federal-aid Project 6-B; bids until July 19; H. W. Morgan, Div. Engr., Jackson Bldg., Gainesville, Ga. (See Machinery Wanted—Road Construction.)

Ga., Gainesville.—State Highway Dept. of Georgia, Atlanta, Ga.; grade 14.63 mi. Gainesville-Lawrenceville Rd.; Federal-aid Project 44, Hall County; bids until July 19; H. W. Morgan, Div. Engr., Jackson Bldg. (See Machinery Wanted—Road Construction.)

Ga., Jasper.—State Highway Dept. of Georgia, Atlanta, Ga.; construct 7.94 mi. Jasper-Canton Rd. (macadam), Pickens County; Federal-aid Project 119; bids until July 19; H. W. Morgan, Div. Engr., Jackson Bldg., Gainesville, Ga. (See Machinery Wanted—Road Construction.)

Ga., Lawrenceville.—State Highway Dept. of Georgia, Atlanta, Ga.; grade 2.3 mi. Gainesville-Lawrenceville Rd., Gwinnett County; bids until July 19; H. W. Morgan, Div. Engr., Jackson Bldg., Gainesville, Ga. (See Machinery Wanted—Road Construction.)

Ga., Newnan.—Coweta County Comms.; awarded road contracts: Lowe & Radder, Macon, Ga., \$240,000 for 8 mi. concrete road; D. R. Cook & Co., Selma, Ala., \$163,000 for 20 mi. soil-surface road. (Lately noted inviting bids.)

Ky., Henderson.—City; construct 2604 sq. ft. granitoid sidewalk on 1st St.; Brown & Co., Contrs.; W. Hopkins, City Engr.

Ky., Henderson.—Henderson County Commissioners, H. H. Farmer, Judge; grade, drain and resurface road; \$36,000; Otis Haynes, Contractor, Hubbardsville, Ky.; E. M. Hopkins, Engr., Henderson, Ky.

Ky., Providence.—City; pave 2½ mi. streets; W. Corete, Contr., Clay, Ky. (Previously noted inviting bids.)

Ky., Whitesburg.—Wm. Hall; construct 2 mi. highway on Sandlick Creek.

La., Alexandria.—Rapides Parish Police Jury, J. F. Ball, Prest.; construct 5½ mi. Bayou Boeuf road; culverts; bids until July 12; Ira W. Sylvester, Engr., Rapides Bank

Bldg. (See Machinery Wanted—Road Construction.)

La., Alexandria.—Rapides Parish Police Jury, J. F. Ball, Prest.; clear, grade and construct bridges on 1½ mi. Glenmora-Westport highway; bids until July 12; Ira W. Sylvester, Engr., Rapides Bank Bldg. (See Machinery Wanted—Road Construction.)

La., Crowley.—Acadia Parish Supvrs. Road Dist. 4, R. L. Doucet, Secy.; construct 25 mi. road; sand-clay gravel; bids until July 24; Merrill Bernard, Engr., Duson Bldg. (See Machinery Wanted—Road Construction.)

Md., Easton.—Talbot County Comms.; construct roads; \$200,000 bonds.

Miss., Corinth.—Alcorn County Highway Comsn., Corinth-Iuka Road Dist.; construct 3.1 mi. road between Memphis and Chattanooga; Federal-aid Project 31; bids until July 29; Xavier A. Kramer, State Highway Engr., Jackson, Miss. (See Machinery Wanted—Road Construction.)

Miss., Gulfport.—Harrison County Commissioners; construct roads in Beat 2; voted \$100,000 bonds. (Lately noted to vote.)

Miss., Mayersville.—Issaquena County Comms., Fourth Supvrs. Separate Road Dist., O. H. Keep, Commr.; construct earthwork on Mayersville-Rolling Fork road; bids until July 26; Southern Engineering Co., Engr., Clarksdale, Miss. (See Machinery Wanted—Road Construction.)

Miss., Poplarville.—Pearl River County Supvrs.; construct 12.98 mi. road between Poplarville and Lumberton; Federal-aid Project 93; bids until Aug. 4; changed date from June 10; Xavier A. Kramer, State Highway Engr., Jackson, Miss. (See Machinery Wanted—Road Construction.)

Miss., Sardis.—Panola County Highway Comsn., Central Road Dist.; construct 34 mi. road between Memphis and Grenada; Federal-aid Project 55; bids until July 30; M. L. Culley, Project Engr., Jackson, Miss. (See Machinery Wanted—Road Construction.)

Mo., Clayton.—St. Louis County Comms.; pave 1.47 mi. Reaves-Barracks road, 14 ft. wide; Telford macadam; J. Steffens, Contr.

Mo., Kansas City.—Board Public Works; pave Main St.; 16,602 sq. yds.; \$89,646.04; Parker-Washington Paving Co., Contr.

N. C., Belmont.—Town; pave 3000 ft. streets; issue \$50,000 bonds. Address The Mayor.

N. C., Salisbury.—City, W. T. Rainey, Clk.; improve Fulton, Kerr, Lee and other streets; issue \$90,000 bonds.

N. C., Salisbury.—North Carolina State Highway Comsn., Div. Office, Greensboro, N. C.; construct 7.205 mi. State highway in Rowan County; Federal-Aid Project 57; 18,760 cu. yds. topsoil surfacing; bids until July 20; W. S. Fallis, State Highway Engr., Raleigh, N. C. (See Machinery Wanted—Road Construction.)

S. C., Charleston.—Bureau Yards & Docks, Navy Dept., Washington, D. C.; grade, drain and resurface roads; concrete; W. T. Hadlow, oContr., 15 Baldwin Bldg., Jacksonville, Fla.

S. C., York.—York County Comms.; improve roads in Broad River Township; voted \$50,000 bonds.

Okl., Marietta.—City, T. M. Randolph, Clerk; construct 22,360 sq. yds. paving on W. 2d, W. 3d and W. 4th Aves.; 16,400 lin. ft. gutter; 16,210 lin. ft. curb; bids until July 15; Henry Exall Elrod Co., Const. Engr., 220 Interurban Bldg., Dallas, Tex. (See Machinery Wanted—Paving.)

Okla., Oklahoma City.—State Dept., Highways. Robt. C. Terrell, State Engr.; 50 counties seeking Federal aid; project statements and estimates vary from \$20,000 to \$300,000; gravel and hard-surface roads; amount available, \$12,000,000; invite bids from time to time.

Tenn., Pulaski.—State Highway Dept., Nashville, Tenn.; construct portion of Bee-line Highway from Pulaski to Elkton; bids until July 16; will invite bids on road from Pulaski to Maury County line.

Tex., Dallas.—City, Hal Moseley, Commr. Streets and Public Buildings; pave 40,000 sq. yds. Lamar St.; bitulithic on concrete foundation; Texas Bitulithic Co., Contr.; Geo. D. Fairtrace, City Engr. (Supersedes recent item.)

Tex., Eldorado.—Schleicher County Commissioners; grade, surface and drain 7.35 mi. Highway 4 on San Angelo-Sonora road, 16 ft. wide; construction by day labor.

Tex., Greenville.—City; pave 12 additional miles streets; construct storm sewers; voted \$450,000 bonds. Address The Mayor.

Tex., Henderson.—Rusk County. R. T. Brown, Judge; construct 22 mi. Henderson to Tatum road; 9 mi. Henderson to Chapman road; 8 1/4 mi. Henderson toward Laneville road; 5 mi. Henderson toward New Salem road; bids until July 16; Hess & Skinner, Engrs., Dallas, Tex. (See Machinery Wanted—Road Construction.)

Tex., Seymour.—City, M. R. Fuller, Mayor; pave 14 blocks; brick; \$211,000 available; Whitley Bros., Contrs., Mineral Wells, Tex.; R. G. Carraway Engineering Co., Engr., Gainesville, Tex. (Lately noted inviting bids.)

Tex., San Angelo.—Tom Green County Commissioners; construct 10 mi. macadamized road in Puget Sound to Gulf Highway; \$255,911; construction by county; rejected bids; J. A. Bevers, Engr. (Lately noted inviting bids.)

Tex., San Antonio.—Uvalde Co. Incptd.; capital \$150,000; R. L. White, T. A. White, J. L. C. White.

Tex., San Antonio.—Bexar County Commrs.; grade, surface and pave 6.77 mi. Highway 2 on Pearsall road, 16 ft. wide; Chapin-Cogliazer Construction Co., Contr., Moore Bldg.

Va., Norfolk.—Bureau Yards and Docks, Navy Dept., Washington, D. C.; construct concrete roads and sidewalks at Navy hospital; \$30,000; G. E. Engineering Co., Contr., Laight and Varick Sts., New York.

Va., Quantico.—Bureau Yards and Docks, Navy Dept., Washington, D. C.; construct concrete roads and alter buildings; McLean Contracting Co., Contr., Fidelity Bldg., Baltimore.

W. Va., Berkeley Springs.—Morgan County Commrs., M. S. Harmison, Clk.; construct 3000-ft. concrete pavement on Hancock-Berkeley Springs Rd., 16 ft. wide; bids until July 17; F. L. Hawkins, Road Engr. (See Machinery Wanted—Paving.)

W. Va., Berkeley Springs.—Morgan County Commrs., M. S. Harmison, Clk.; construct 18 mi. Long Hollow Rd. in Cacapon Dist.; bids until July 27; F. L. Hawkins, Road Engr. (See Machinery Wanted—Road Construction.)

W. Va., Wheeling.—City; pave 4th, 5th, 6th, 7th and Center Sts.; \$30,000; Harry A. Conrad, City Engr.

W. Va., Winfield.—Putnam County Commrs.; grade roads; \$75,000 available; bids until July 26; G. H. Davis, Engr., Hurricane, W. Va. (Lately noted.)

Sewer Construction.

Fla., Okeechobee.—City, W. W. Dunncliff, Clk.; install sewer and water systems; pave

streets; bids until July 19; W. B. Clay, City Engr. Supersedes recent item. (See Machinery Wanted—Sewer.)

N. C., Wake Forest.—Town; install sewer and water systems; issue \$125,000 bonds. Address The Mayor.

Tenn., Alton Park.—City, J. F. Hager, Mayor; construct sanitary sewer system; 36,000 lin. ft. 6 to 24 in. vitrified pipe sewers; 900 6-in. Y branch house connections; 125 brick manholes; septic and flush tanks; W. I. Brandon, Engr., Alton Park; I. C. Mishler, Contr., 105 Spruce St., Chattanooga, Tenn. (Lately noted bids until June 19.)

Tenn., Jackson.—City, J. D. Johnson, Mayor; extend sewer system; issue \$5000 bonds.

Shipbuilding Plants.

Va., Newport News.—Repairing.—Atlantic Ship Service Corp. chartered; capital \$25,000; Frank Richardson, Prest.; H. R. Lackey, Secy.

Telephone Systems.

Md., Baltimore.—Chesapeake & Potomac Telephone Co., Burdett Stryker, Gen. Mgr., 108 E. Lexington St.; erect 2-story and basement 74-ft. 8-in. by 85-ft. 9-in. building on Kate Ave.; fireproof construction; \$160,000; ordered machine switching central office telephone equipment; initial installation \$460,000; Frainie Bros. & Haigley, Bldg. Contrs., 18 Clay St., Baltimore; McKenzie, Voorhees & Gmelin, Archts., 1123 Broadway, New York. (Supersedes recent item.)

N. C., Greensboro.—Southern Bell Telephone & Telegraph Co., W. Market and Green Sts.; remodel present building; \$30,000; M. L. Holaday, Contr.

Textile Mills.

Ga., Atlanta—Cordage.—American Mills Co., 172 Marietta St.; increase capital to \$1,000,000.

Ga., Blue Ridge—Hosiery.—Blue Ridge Knitting Mill organized; capital \$30,000; M. C. King, Prest., McCaysville, Ga.; William Butt, V.-P.; J. F. Holden, Secy.; both Blue Ridge.

Ga., Pelham—Cotton Products.—Consolidated Textile Corp.; improve plant; enlarge slasher-room; increase slashers to 3; ordered 88 looms; erect hollow-tile office building and ornamental fence.

N. C., Four Oaks—Hosiery Yarn.—Ivanhoe Mfg. Co., Smithfield, N. C.; build additional mill; 1 story; 50x40 ft.; mill construction; install humidifiers, sprinkler system, electric power; erect warehouse and small heating plant; J. E. Sirrine, Archt.-Engr., Greenville, S. C.

N. C., Kings Mountain—Yarns.—Cora Cotton Mills; increase capital from \$100,000 to \$500,000.

N. C., Lincolnton—Carded Yarns.—Love Cotton Mill Co. organized; Robert A. Love, Prest., Gastonia, N. C.; B. P. Caldwell, Secy.-Treas., Cliffside, N. C.; erect mill; install 7000 spindles; mfr. carded yarns; construct 35 cottages.

N. C., Lincolnton—Coarse Combed Yarns.—Mellville Mill No. 2 organized; Edgar Love, Prest.; Frank Love, Secy.-Treas.; both Gastonia, N. C.; erect mill; install 6000 spindles; mfr. coarse combed yarns.

N. C., Moncure—Cotton Products.—Moncure Mfg. Co. Incptd.; capital \$200,000; C. D. Orrell, Moncure; Howard White, S. Brown Shepherd; both Raleigh, N. C.

N. C., Oakboro—Cotton Products.—Oakboro Cotton Mills Incptd.; capital \$500,000; N. A. and J. R. Teeter, both Oakboro; A. N. James, Mt. Pleasant, N. C.

S. C., Calhoun—Cotton Products.—Little River Light & Power Co., L. L. Hester, Prest.;

purchased 180-acre site, with water-power, estimated to develop 300 H. P.; erect cotton mill.

S. C., Gaffney—Print Cloths.—Gaffney Mfg. Co.; increase capital from \$1,000,000 to \$1,600,000.

S. C., Greenville—Cotton Products.—Victor Monaghan Co.; increase capital from \$6,400,000 to \$8,300,000.

S. C., Woodruff—Yarn.—W. S. Gray Cotton Mills; increase capital from \$230,000 to \$580,000.

Tex., Corsicana—Hosiery.—Pioneer Hosiery Mills Co., organized; capital \$300,000; Bush Wofford, Wm. Clarkson, Jr.; establish 200 dozen pairs daily capacity hosiery mill.

Water-Works.

Fla., Okeechobee.—City, W. W. Dunncliff, Clk.; install water and sewer systems; pave streets; bids until July 19; W. B. Clay, City Engr. Supersedes recent item. (See Machinery Wanted—Water-works.)

Ky., Paintsville.—City; install water-works. Address The Mayor.

Mo., Marshall.—City; install water and light plants; voted \$30,000 bonds. Address The Mayor.

N. C., Wake Forest.—Town; install water and sewer systems; issue \$125,000 bonds. Address The Mayor.

S. C., Paris Island.—Bureau Yards and Docks, Navy Dept., Washington, D. C.; lay 8-in. fresh-water mains at Marine Training Camp; specification 4219; Noland-Clifford Co., 330 28th St., Newport News, Va.

Tenn., Jackson.—City, J. D. Johnson, Mayor; improve water-works; issue \$15,000 bonds.

Tex., Crowell.—City; contemplates erection water-works, creamery and ice plant; vote on bonds. Address The Mayor.

Tex., Hull.—G. L. Glibreath, R. M. Campbell; organize company; establish water, light and ice plant.

Woodworking Plants.

Ala., Dothan—Spokes, etc.—J. H. Daniel; erect dimension mill; mfr. spokes, rims, table legs, etc.

Ark., Fort Smith—Caskets.—Arkotex Casket Co.; rebuild burned plant; loss \$25,000.

Ark., Greenwood—Boxes, etc.—Eugene Mayo, D. H. Travis; have building; install mchy.; mfr. crates and boxes.

Fla., Pensacola—Veneer.—Alexandria Co-op-erage & Lumber Co., C. A. Weis, Prest.; erect \$200,000 sawmill and veneer plant; acquired 25,000-acre timber tract.

Fla., West Tampa—Boxes.—American Box Co. Incptd.; capital \$25,000; Elie S. Srour, Jacob Haber, C. Myers, Poole.

Ky., Louisville—Flooring.—Louisville Oak Flooring Co.; increased capital from \$25,000 to \$50,000.

Md., Frederick—Furniture.—J. M. Dronenburg; organize company; \$10,000; has building equipped to manufacture furniture.

Miss., Jackson—Spokes.—Jackson Spoke Mfg. Co.; rebuild burned plant; loss \$10,000.

Mo., Chillicothe—Dining-room Furniture.—Chillicothe Furniture Co., T. A. Ritter, Mgr.; erect 100x239-ft. building addition; mill construction; \$60,000; install \$45,000 woodworking mchy.; daily capacity 10 suites; S. E. Shults, Contr. (Supersedes recent item.)

N. C., Charlotte—Sash, Doors, etc.—Hardwood Mfg. Co., S. R. Williams, Treas.-Mgr., Johnson St. and Seaboard Air Line Ry.; rebuild burned plant; install matchers, single surfacer, jointer, bandsaw, shaper, mortising

machine, door clamps, sander. (See Machinery Wanted—Woodworking Machinery.)

Tex., San Benito—Boxes, etc.—Valley Box & Crate Co.; increased capital from \$10,000 to \$50,000.

Tex., Waco—Cooperage.—Waco Cooperage & Mfg. Co. Incptd.; capital \$5000; Floyd Casey, Jake Wernet, both Waco; Otto Stolley, Austin, Tex.; establish plant; purchased mchy.

Va., Messick—Cooperage, etc.—York Cooperage & Lumber Co. Incptd.; capital \$10,000; C. P. Amory, Prest., Winchester, Va.; L. D. Amory, Secy., Messick.

Fire Damage.

Ala., Fairhope.—Hotel Overlook. Address The Proprietor.

Ark., Fort Smith.—Arkotex Casket Co.'s plant; loss \$25,000.

Ark., Mt. Ida.—School building at Baker. Address Board of Education.

Fla., Tampa.—Palmercraft Co.'s plant; loss \$55,000.

Ga., Reynolds.—Grand Theater, owned by Goddard & Goddard; loss \$25,000.

Ga., Valdosta.—J. Augustus Dasher's residence, near Valdosta.

Ky., Owingsville.—Lyric Theater. Address The Manager.

Miss., Jackson.—Jackson Spoke Mfg. Co.'s plant; loss \$10,000.

Mo., Glencoe.—Mrs. Angelica Carr's residence; loss \$40,000.

N. C., Eskota.—Brown Lumber Co.'s lumber plant; loss \$60,000.

N. C., Milton.—Lewis Walker's residence.

Okla., Lone Wolf.—Farmers' Cotton Oil Co.'s oil mills and ginneries; loss \$45,000.

Okla., Newkirk.—Newkirk Ice & Creamery Co.'s plant.

S. C., Anderson.—Anderson Pad & Collar Factory; loss \$10,000.

Tex., Austin.—Barn at State Asylum, Dr. John Preston, Supt.; loss \$20,000.

Tex., Franklin.—Elmo Reynolds, E. Hehertz, J. L. Scott, W. C. Gilstrap, Morris Gillard and Mitchell Bros.' buildings; loss \$30,000.

Va., Toms Creek.—Virginia Iron, Coal & Coke Co.'s foundry, machine and carpenter shops; loss \$100,000.

ries and basement; 60x60 ft.; Val. P. Collins, Archt., 622 Marion E. Taylor Bldg., Louisville; W. A. Fitch & Co., Contrs. for foundation, Shelbyville, Ky. (Lately noted.)

Ky., Whitesburg.—Eden Coal Co.; erect church, Caudill's Branch. (See Dwellings.)

Md., Baltimore.—Grace Evangelical Lutheran Congregation, Rev. E. G. Wolf, Pastor, 5202 Harford Rd.; erect \$85,000 building; 114x46 ft.; connecting wing, 19x24 ft.; parsonage, 30x33 ft.; stone; slate roof; cement basement floor; others, wood; heating, \$9000; lighting, \$1000; Ritcher-Lee Co., Archt., Reading, Pa.; bids opened Feb., 1921.

Md., Baltimore.—Baltimore Hebrew Congregation; remodel building, Madison Ave. and Robert St.; assembly hall in basement, with stage; contract let about July 15; Louis Levi, Archt., Real Estate Trust Bldg., Philadelphia, and Munsey Bldg., Baltimore.

Mo., Springfield.—Grace M. E. Church; bids until July 10 to erect Sunday-school building, Cherry and Jefferson Sts.; Heckenlively & Marks, Archts., 642 Landers Bldg. (Lately noted.)

Mo., Springfield.—Grace M. E. Church, Rev. Wm. R. McCormack, pastor, 425 S. Roberson Ave.; erect \$125,000 building, Cherry and Jefferson Sts.; 92x156 ft.; reinforced concrete; steel and brick; reinforced concrete floors; concrete foundation; Heckenlively & Marks, Archts., Landers Bldg.; bids opened July 15. (Lately noted.)

N. C., Winston-Salem.—Fourth Street Christian Church, Rev. Lawson Campbell, Pastor; erect \$50,000 building; 60x100 ft.; steel; hollow fireproof tile; concrete foundation; asbestos and cement roof; marbleoid floors; steam heat; indirect lighting plant; rolling partitions; C. Gilbert Humphreys, Archt. Address The Pastor. (Lately noted.)

Okla., Oklahoma City.—Epworth M. E. Church; erect \$50,000 building; 56x64 ft.; brick; tile roof; hardwood floors; ornamental terra-cotta; rolling partitions; wire glass; ventilators; concrete floors; Hawk & Parr, Archts., 101 Magnolia Bldg. Address D. R. Cummings, Colcord Bldg. (Lately noted.)

Okla., Oklahoma City.—Harrison Avenue Congregational Church, Rev. Frank Hampton Fox, Minister, 318 W. 10th St.; erect \$90,000 building; 60x90 ft.; 2 stories; concrete floors; steam or hot-water heat; ornamental terra-cotta; ventilators; Hawk & Parr, Archts., Magnolia Bldg., plans to hire superintendent, purchase material and construct with own force. Address Mr. Fox. (Lately noted.)

S. C., Easley.—Glenwood Cotton Mill; erect Sunday-school room to Union Church. (See Dwellings.)

Tex., Brownwood.—Methodist Episcopal Church, R. H. Jones, Chrmn. Bldg. Comm.; erect \$20,000 building; 66x66 ft.; native stone and concrete; composition roof; wood and concrete floors; electric lighting; plaster-board; rolling partitions; Henry Mount, Archt.; bids opened July 10. Address Mr. Jones. (Lately noted.)

Tex., Cameron.—First M. E. Church South; erect \$60,000 building; 60x107 ft.; fireproof; concrete; tar and gravel roof; concrete floors; steam heat; conduit lighting; Berger sidewalk lights or equal; bids opened July 21. Address Waller, Silber & Co., Archts., 507 Bedell Bldg., San Antonio. (See Machinery Wanted—Building Material; Organ; Art Glass; Coal Chutes; Sidewalk Lights.)

Tex., Wichita Falls.—Lamar Ave. Baptist Church; erect \$30,000 building. Address The Pastor.

Va., Richmond.—St. Thomas Episcopal Church; erect Sunday-school building, Ginter Park; 2 stories; 41x75 ft.; granite; Lee & Lee, Archts., 918½ E. Main St.

BUILDING NEWS

EXPLANATORY.

Buildings costing less than \$10,000 not covered in these reports.

BUILDINGS PROPOSED

Apartment-Houses.

Tex., Waco.—C. A. Sherman; erect apartment-house, 624 N. 22d St.

Va., Richmond.—Jas. E. Cannon, Travelers' Bldg.; erect \$30,000 apartment-house, West End; 6 suites; 3 stories; brick; A. F. Hunt, Archt.; B. J. Rowlett, Assoc. Archt., both Old Dominion Trust Bldg.

Association and Fraternal.

Ark., Little Rock.—Scottish Rite Masons, Chas. E. Rosenbaum, Prest.; plan to erect temple, Scott St.; 300 ft. long; Ionic design; Mann & Stern, Archts. (Previously noted.)

Fla., Jacksonville.—Lodge No. 455, Loyal Order of Moose, Henry A. Godbold, Secy.; erect home.

Fla., Pensacola.—West Florida Shrine Club; plans to erect temple; Walter D. Willis, Archt.

Fla., Perry.—Ancient, Free and Accepted Masons; erect 2-story building; 100x50 ft.; storerooms, 1st floor.

Ky., Whitesburg.—Eden Coal Co.; erect Y. M. C. A. building, Caudill's Branch. (See Dwellings.)

Md., Cambridge.—Cambridge Lodge No. 66, A. F. & A. M., L. B. Phillips, Chrmn., Mill and Church Sts.; remodel 2d floor; brick; Carey roof; wood floors; Mottu & White, probable Archts., 322 N. Charles St., Baltimore; reported cost \$20,000.

Miss., Vicksburg.—Masonic Grand Lodge; bids until July 20 at office of Jas. K. Moore, 806 First Natl. Bank Bldg., to remodel building; plans and specifications at office of W. A. Stanton, Archt., 308 First Natl. Bank Bldg. (Lately noted.)

Tex., Lockhart.—Masonic Bldg. Assn.; erect \$50,000 lodge building; 50x120 ft.; fireproof; metal or tile roof; composition or concrete floors; hollow fireproof tile; ornamental terra-cotta; steel sash and trim; bids opened in Sept. or Oct. (Lately noted.)

Va., Alexandria.—Salvation Army; remodel

building 319-21 King St.; install heating system.

Bank and Office.

Ala., Mobile.—Dr. J. C. O'Gwynn; erect \$90,000 office building, Conception and Conti Sts.; 3 stories; brick, steel and concrete; first floor, restaurant; upper floors, 45 offices.

Ga., Pelham.—Consolidated Textile Corp.; erect hollow-tile office building, etc.

Ky., Cadiz.—Cadiz Bank & Trust Co.; plans to erect building.

Ky., Middlesboro.—National Bank of Middlesboro, Dr. L. D. Robertson, Treas.; erect \$50,000 building; brick; Joseph & Joseph, Archts., Atherton Bldg., Louisville, Ky.

Okla., Wyona.—First State Bank, W. E. Browning, Prest.; erect brick building, Main St.

Va., Roanoke.—American National Bank, M. W. Turner, Prest.; plans to remodel and erect 4 additional stories to building, Henry St. and Campbell Ave.; install elevators.

W. Va., Huntington.—Ohio Valley Mine Car & Machinery Co.; erect fireproof office building; 42x46 ft.

W. Va., Morgantown.—Monongahela Building Co.; erect \$250,000 bank and office building, High and Court Sts.; 8 stories; 78x86 ft.; brick, steel, limestone; reinforced concrete floors; S. F. Heckert, Archt., Bessemer Bldg., Pittsburgh, Pa. (Previously noted.)

Churches.

Ala., Reform.—Methodist Episcopal Church, South, Rev. J. M. Wigly, Pastor; erect \$10,000 to \$15,000 building; brick; concrete and hardwood floors; ventilators; rolling partitions; probable archt., T. L. Brodie, Jefferson County Bank Bldg., Birmingham; bids opened about Sept. 1. Address Dr. C. B. Lavender, Reform. (Lately noted.)

Ky., New Liberty.—Christian Church, G. Purdy, Chrmn.; erect \$15,000 building; 2½ sto-

In writing to parties mentioned in this department, it will be of advantage to all concerned if the Manufacturers Record is mentioned.

Va., Richmond.—Ginter Park M. E. Church, Rev. Leon S. Flowney, pastor, 601 W. Main St.; erect \$50,000 Sunday-school building, Ginter Park; 2 stories and basement; brick and stucco; Chas. M. Robinson, Archt., Times-Dispatch Bldg.

W. Va., Huntington.—St. Joseph's Church, Rev. H. B. Altmeyer, Pastor; enlarge church building and improve Sisters' House.

W. Va., Ronceverte.—Methodist Episcopal Church, Rev. I. D. S. Cross, Pastor, and Methodist Episcopal Church South, Rev. W. C. Sponaugle, Pastor; plan to erect \$75,000 building.

City and County.

Ala., Birmingham.—Fire Station.—City, John H. Taylor, Commr.; erect \$100,000 fire station, 6th Ave., between 19th and 20th Sts.; 2 stories; 50x170 ft.; D. O. Whildin, Archt., Title Guarantee Bldg.; Gamewell Fire Alarm Telegraph Co., Contr. for fire-alarm system. (Previously noted.)

Fla., Daytona.—City Hall.—City, Geo. F. Crouch, Clk.; erect \$45,000 city hall; 40x82 ft.; hollow-tile stuccoed; red tile roof; vaults; safes; E. L. Bond, Archt.; construction by owner. (Lately noted.)

Okla., Mangum.—Jail.—County Commrs.; erect \$15,000 brick jail; 40x60 ft.; prepared roofing; concrete floors; bids opened Aug. 3; Haskell Pruett, Archt. Address N. W. Overall, County Commr. (Lately noted.)

Tex., Cisco.—City; probably votes this month on \$100,000 bonds as follows: \$75,000 for municipal hospital; \$25,000 park improvements. Address The Mayor.

Tex., El Paso.—Fire Station.—City, Wm. T. Griffith, Alderman; erect \$10,500 fire station; 40x60 ft.; brick; fireproof, graveled tar paper roof; concrete floors; furnace and boiler heating plant, \$500; electric lights; Percy McGhee, Archt. Address City Purchasing Agent. (Lately noted.)

Tex., McKinney.—Market.—City; votes Aug. 3 on \$30,000 bonds to improve market square and erect livestock sales pavilion. Address The Mayor.

Tex., Rockwell.—Jail.—Rockwell County Commissioners, J. K. Wells, County Judge; bids received by Mrs. F. B. Vance, County Clerk, until July 16 to improve and erect addition to jail.

Courthouses.

Miss., Tunica.—Tunica County Board of Supervisors, L. C. Shannon, Chancery Clk.; bids until Aug. 5 to erect \$250,000 courthouse; separate bids on plumbing, heating, electric wiring, electric fixtures, clock, etc.; plans and specifications at office Chancery Clk. and office Frank P. Gates Co., Archt.-Engr., Clarksdale, Miss. (Previously noted.)

Dwellings.

Ala., Tuscaloosa.—D. O. Parker; erect \$20,000 residence; 10 rooms; brick veneer or tile; tile roof; hardwood floors; D. O. Whildin, Archt., Birmingham. Address owner.

Fla., Tampa.—Walter S. Wills; erect 3 brick residences and garages, 2016-18 Jetton Ave. and 801 S. Willow Ave.; \$10,000.

Ky., Lennut.—C. L. Riley Coal Co., Domino, Ky.; erect 25 miners' dwellings.

Ky., Sergeant.—Wilson Franklin; erect 10 miners' dwellings, Bastin, Ky.

Ky., Thornton.—Apex Coal Co., Sergeant, Ky.; erect 12 miners' dwellings.

Ky., Whitesburg.—Eden Coal Co.; erect 12

miners' dwellings, Y. M. C. A. building, church and school at Caudill's Branch.

Md., Baltimore.—Denstall Development Co., W. E. Dentinger, Secy.-Treas., 304 State Bank Bldg., 2 S. Holliday St.; developing 27 acres of land on Falls road, opposite Jones Falls; erecting 100 dwellings; \$6000 each.

Mo., St. Louis.—Home and Housing Assn., 511 Locust St.; erect 25 dwellings, Sutherland Ave.; 25x27 ft.; brick and frame; rubberoid shingle roof; wood floors; \$187,500; furnace heat, \$5000; Leo. K. Milberger, Archt., 511 Locust St.; construction by owner. (Lately noted.)

N. C., Greensboro.—Gulford Insurance & Realty Co.; erect 4 residences, N. Mendenhall St.; \$34,000; 2 stories; 6, 7, 8 and 9 rooms.

N. C., Marion.—Eugene Cross; erect \$20,000 residence; 11 rooms, sleeping porch; brick veneer; slate or tile roof; oak, hardwood floors; hot-water heat; interior tile; concrete floors; porches, 6-inch tile; day work. (Lately noted.)

N. C., Mebane.—Durham Hosiery Mill; erect number operatives' houses.

N. C., Warsaw.—John Quinn of Quinn-McGowan Co., Wilson, N. C.; erect \$20,000 residence. (See Stores.)

S. C., Easley.—Glenwood Cotton Mills; erect number of houses; \$25,000 to \$30,000.

S. C., Easley.—Glenwood Cotton Mill; erect 4 residences; also Sunday-school room to Union Church.

Tenn., Hollow Rock.—Nashville, Chattanooga & St. Louis R. R., H. McDonald, Chief Engr., Nashville; erect number of employees' dwellings.

Tex., Dallas.—Geo. W. Owens, Jr.; erect \$15,000 residence, 5430 Gaston Ave.

Tex., Dallas.—Geo. E. Spera; erect \$15,000 residence, 835 Marsalis Ave.

Tex., Dallas.—F. H. Etheredge; erect \$15,000 residence, 1814 Mosher Ave.

Tex., Dallas.—J. W. Halsell; erect \$16,500 two-story brick-veneer residence, 5715 Gaston St.

Tex., Fort Worth.—J. D. Davis; erect \$30,000 brick-veneer and tile residence, 28 Ryan Pl. Drive.

Tex., Fort Worth.—G. T. Sandidge; erect \$32,500 brick and tile residence, 2412 College St.

Tex., Fort Worth.—W. L. Morris; erect \$17,000 brick-veneer residence, 2618 5th Ave.

Tex., Fort Worth.—E. B. McDonald; erect \$15,000 brick-veneer residence, 2261 Hemphill St.

Tex., Hico.—W. F. Hooker; erect residence; 2 stories and basement; frame, stucco or brick veneer; metal roof; hot-air heat; Waller, Silber & Co., Archts., 507 Bedell Bldg., San Antonio; subcontracts for heating, plumbing and electric wiring. Address owner, who purchases material. (See Machinery Wanted—Building Material; Metal Lath; Brick; Coal Chute.)

Va., Emporia.—W. C. Davis; erect \$10,000 residence; 2½ stories; 33x31 ft.; frame; W. Duncan Lee, Archt., Travelers' Bldg., Richmond; construction by owner.

Va., Norfolk.—J. Bunting, 224 31st St.; erect \$10,000 frame and stucco cottage; 2 stories; 28x42 ft.; C. M. Waller, Archt., Dickson Bldg.; construction by owner.

Va., West Point.—Chesapeake Corp.; erect \$12,000 residence; 21x61 ft.; 2 stories; frame; stucco; A. F. Hunt, Archt., Old Dominion Trust Bldg., Richmond.

W. Va., Charleston.—H. Levine; erect \$10,000 residence, Duffy St. between Kanawha and Quarrier Sts.; 2 stories; 8 rooms; brick, tile.

W. Va., Huntington.—J. B. Stevenson; erect 5 one-story stucco cottages.

W. Va., Huntington.—Fred C. Prichard; erect bungalow, 12th Ave. and 5th St.

W. Va., Huntington.—Geo. H. Mead; erect \$25,000 bungalow and garage, 5th St. and 12th Ave.

W. Va., Shinnston.—Love Coal & Coke Co., Thos. Love and W. A. Furlong; erect 50 miners' dwellings near Shinnston.

W. Va., Sistersville.—E. A. Durham, Tylers County Bank; erect residence and garage; 2 stories and basement; 60x80 ft.; stucco on tile; E. B. Franzheim, Archt., 1425 Chapline St., Wheeling.

W. Va., Wheeling.—A. M. Rice, 1300 Main St. and Poplar Ave.; erect residence, Poplar Ave.; 2 stories and basement; 40x60 ft.; brick and shingle; E. B. Franzheim, Archt., 1425 Chapline St.

Government and State.

Ky., Louisville.—Home.—Kentucky Children's Home Society, Judge Robt. W. Bingham, Prest.; erect cottage-plan village.

Va., Norfolk.—Warehouse.—Bureau of Yards and Docks, Navy Dept., C. W. Parks, Chief, Washington, D. C.; erect \$75,000 warehouse; specification 4222.

Hospitals, Sanitariums, Etc.

Md., Baltimore.—City; votes Nov. 2 on \$750,000 loan to erect municipal hospital; Dr. C. Hampson Jones, Health Commr., City Hall.

Mo., Poplar Bluff.—City; votes Nov. 2 on \$75,000 bonds to erect hospital. Address The Mayor.

Md., Sparrows Point.—Bethlehem Steel Corp.; erect brick hospital; 2 stories; J. E. Sperry, Archt., 409 Calvert Bldg., Baltimore.

N. C., Asheville.—Fred L. Seely, proprietor Grove Park Inn; erect \$45,000 children's hospital for cripples; 30 beds; dormitory and administration building; W. Pinkey Herbert, Chief of Staff.

Tex., El Paso.—Southern Baptist Sanitarium, Dallas; reported to erect 1-story sanitarium; 216x110 ft.; Schmidt, Garden & Martin, Archts., 104 South Michigan Ave., Chicago.

Hotels.

Ark., Cotton Plant.—Debee Hotel; erect 16-room addition. Address The Proprietor.

Miss., Durant.—J. M. Howard; erect hotel; 35x160 ft.; 2 stories; brick and frame; composition and tile roof; wood floors; bids opened July 28; Kramer & Lindsley, Archts., Kress Bldg., Jackson. Address owner. (Lately noted.)

Miss., McComb.—Xavier A. Kramer, Magnolia, Miss.; remodel hotel lately noted; brick and frame; composition and tile roof; wood and tile floors; Kramer & Lindsley, Archts., Kress Bldg., Jackson, Miss. Address owner. (See Machinery Wanted—Building Material; Roofing; Cement; Tile.)

N. C., Wake Forest.—Wake Forest Hotel Co., R. W. Warren, Prest.; erect 4-story hotel; brick; 56 living-rooms, drug store, barber shop, sample-rooms, etc.; \$100,000; F. B. Simpson, Archt., Raleigh. (Previously noted.)

Miss., McComb.—H. L. White, Columbia, Miss.; erect 3-story hotel; brick and stone; 100 rooms; elevators; \$300,000; Stewart & Stewart, Archts., McComb.

Miscellaneous.

Okla., Henryetta.—Amusement Park.—Grey & Sandlin; develop 20-acre tract for amusement

park; erect summer theater, recreation devices, construct boat lake, etc.; \$75,000 to \$100,000.

Tex., McKinney.—Clubhouse.—Hill Crest County Club, C. G. Conegys, Prest.; erect \$20,000 clubhouse; 75x90 ft.; frame; shingle roof; maple floors; Delco lighting; interior tile; plaster board; rolling partitions; Peters & Co., Architects, Bonham, Tex.; bids opened. (Lately noted.)

Railway Stations, Sheds, Etc.

N. C., Winston-Salem.—Southern R. R. B. Herman, Ch. Engr., M. W. & S. Lines East, Charlotte; erect passenger station, Church St., between 3d and 4th Sts.; separate building for baggage, express and mail; fireproof; Alfred Feldheimer, Archt., 5 E. 42d St., New York.

Schools.

Ala., Birmingham.—Jefferson County Board of Education, Dr. N. R. Baker, Supt.; erect schools at Adamsville, Cottage Hill, North Pratt; also additions to Leeds and Oak Grove schools; D. O. Whildin, Archt., Title Guarantee Bldg., Birmingham. (See Contracts Awarded—Schools.)

Ala., Boyles.—Jefferson County Board of Education, Birmingham; erect grammar schools at Boyles and Tarrant City.

D. C., Washington.—Howard University, Dr. Emmett J. Scott, Secy. and Treas.; plans to erect \$85,000 building; also other improvements and extensions.

D. C., Brookland.—Order of St. Francis, Washington, D. C.; erect building at Catholic University; 3 and 4 stories; 250x300 ft.; brick or stucco; J. T. Comes, Archt., Renshaw Bldg., Pittsburgh, Pa.

D. C., Washington.—Martha Washington Seminary, J. I. Cassidy, 16th and Oak Sts., erect dormitory; 4 stories; 40x90 ft.; stone and brick; J. H. De Sibour, Archt., Hibbs Bldg.

Fla., Crestview.—School Board; erect \$16,500 school; vote July 17 on \$8000 bonds.

Ky., Whitesburg.—Eden Coal Co.; erect school building, Caudill's Branch. (See Dwellings.)

Ga., Savannah.—Board of Public Instruction, Carleton B. Gibson, Supt.; separate bids until July 26, exclusive of plumbing, sewerage, gas-fitting, heating, ventilating and electric work, to erect Junior High School, 34th and 35th Sts., and elementary school in Chatham Crescent; plans and specifications at office Board of Public Instruction and at office Wm. B. Ittner, Archt., Board of Education Bldg., St. Louis.

Ky., Bagdad.—Board of Education, Mrs. L. Hall, Supt., Courthouse, Shelbyville; brick; 2 stories and basement; \$30,000; G. L. Oberwarth, Archt., 515 Ann St., Frankfort. (Lately noted.)

Ky., Irvine.—Irvine Graded School Dist. Board of Trustees; erect \$55,000 school; 120x60 ft.; 9 rooms, auditorium and basement; brick and steel; stone trim; cement basement; fireproof roof; hollow fireproof tile; rift pine, concrete and hardwood floors; metal doors; rolling partitions; vault lights; ventilators; hot-water heat, \$4000; electric lights. Address E. Stamler & Co., Architects, Lexington, Ky., who will sublet under separate contracts. (Lately noted.)

Ky., New Liberty.—Board of Education, Dr. G. Purdy, Chmn.; erect \$15,000 school; 1 story and basement; 60x100 ft.; V. P. Collins, Archt., Marlon & Taylor Bldg., Louisville; W. A. Fitch & Co., Contrs. for foundation.

Miss., Blue Mountain.—Tippah County

Agricultural High School; erect brick dormitory for boys.

Miss., Clarksdale.—School Board, J. H. Johnson, Secy.; bids until August 3 to erect brick school for negroes; separate bids on plumbing, heating and electric wiring; plans and specifications at office Frank P. Gates Co., Archt.-Engr., Clarksdale, and office H. B. Heidelberg, City School Supt. (Previously noted.)

Miss., Bonita.—Bonita School Dist. Trustees; erect school; \$15,000 bonds voted. (Lately noted.)

Miss., Kosciusko.—School Dist.; considering issuing \$30,000 bonds to erect building. Address Board of Education.

Mo., Brookfield.—Board of Education, A. W. Baker, Secy.; erect \$105,000 school; 3 stories and basement; 76x114 ft.; brick; stone trim; composition roof; steam heat; electric lights; yellow-pine floors; W. E. Hulse & Co., Architects, Hutchinson, Kans.

Mo., Fulton.—Westminster College, Dr. E. E. Reed, Prest.; erect \$100,000 gymnasium building; 68x140 ft.; brick and stone; slate roof; wood and cement floors; heat from central plant; Holmes & Flinn, Architects, 8 S. Dearborn St., Chicago. Address owner. (Lately noted.)

N. C., Charlotte.—City voted \$750,000 school bonds; H. P. Harding, Supt. of Education. (Lately noted.)

N. C., Lexington.—Methodist Protestant Church; remodel and improve Yaddin College; erect dormitories, install water and lights, etc.; also plans to erect additional college; A. H. Evans, Lexington, interested.

Okla., Granton.—Board of Education, A. L. Bloss, Clk.; erect \$25,000 school; 2 stories and basement; 55x77 ft.; brick; stone trim; composition roof; W. V. Street, Archt., Murdock Bldg., Wichita, Kans.

Okla., Shawnee.—Board of Education; erect \$180,000 junior high and grade school; details not determined. Address A. C. Davis, Archt. (Lately noted.)

S. C., Graniteville.—Graniteville Manufacturing Co.; erect \$100,000 grade and high school previously noted; 60x120 ft.; 14 classrooms and auditorium; semi-fireproof, alternate on all fireproof; hollow fireproof tile; metal ceilings and doors; hardwood, concrete and asphalt floors; tar and gravel or tin roof; interior tile; ornamental terra-cotta; probably hot-air heat; ventilators; steel sash and trim; bids about Aug. 1. Address Willis Irvin, Archt., 1403-6 Lamar Bldg., Augusta, Ga. (See Machinery Wanted—Building Material; School Equipment; Heating and Ventilating Plant; Electric-Light Fixtures; Granite and Stone.)

Tenn., Jackson.—City, J. D. Johnson, Mayor; issue \$151,000 bonds, to include \$30,000 to remodel Whitehall School, \$20,000 to repair and paint school, \$7000 for heating system of College St. School, etc. (Lately noted in part.)

Tenn., Sevierville.—Murphy College; erect \$100,000 dormitory; 2 stories; 50x160 ft.; brick; Magaziner & Eberhard and Jas. Russell Harris, Asso. Architects, 603 Chestnut St., Philadelphia.

Tex., Dallas.—Board of Education, E. W. Greiner, Prest.; erect North Dallas High School; 3 stories; brick; fireproof; \$600,000; Wm. B. Ittner, Archt., Board of Education Bldg., St. Louis; Mt. Auburn School, \$75,000; Oak Cliff School, \$75,000; negro high school. (Previously noted to have voted \$1,500,000 school-improvement bonds.)

Tex., Hico.—County Line Independent School Dist.; erect annex and remodel ward school; brick; tar and gravel or tin roof; Waller, Silber & Co., Architects, 507 Bedell Bldg., San Antonio; bids opened July 19. Address Secy. School Board, Hico.

Tex., Midway.—Midway Consolidated School Dist.; school; hollow tile.

Tex., Prairie View.—Prairie View State Normal College; erect \$20,000 kitchen and commissary; 70x72 ft.; reinforced concrete; Barrett specification roof; concrete floors; hollow fireproof tile; heating and light from college plant; E. B. La Roche, Archt., College Station; W. P. Terrell, Supt. of construction.

Tex., San Marcos.—Southwest Texas State Normal College; erect hospital; accommodate 20 patients.

Tex., Stephenville.—John Tarleton College; erect \$10,000 girls' dormitory; also contemplates erection manual arts building, boys' dormitory and fine arts building; total cost \$500,000.

Va., Emporia.—Greenville County School Board; erect \$25,000 high-school addition; 2 stories and basement; brick; Chas. M. Robinson, Archt., Times-Dispatch Bldg., Richmond.

Va., Lynchburg.—Virginia Theological Seminary and College; erect administration building.

Va., Lynchburg.—City School Board; erect elementary school, Riverside Park, and negro high school, 12th and Polk Sts.

Va., Onancock.—Board of Public Instruction, Harris Hart, Supt.; erect school; \$35,000 bonds voted.

Va., Vinton.—Board of Education; erect 8-room-and-auditorium annex to Vinton High School; brick, cement and stone; wood floors; Barrett roofing; direct indirect steam heat; construction by day labor under supervision of G. R. Ragan, Archt., Roanoke. (Previously noted.)

Va., Yale.—School Board; erect \$10,000 addition; 2 stories; frame; Chas. M. Robinson, Archt., Times-Dispatch Bldg., Richmond.

W. Va., Charleston.—London District Board of Education, Quince Jones, Prest.; erect 4-room frame school on Ferry Branch; bids opened July 12; Egan & Reese, Architects, Day and Night Bank Bldg.

W. Va., Charleston.—Charleston District Board of Education, D. Deitrick, Prest.; bids until July 14 to erect 4-room brick building, east side of Sissonville road between Chandlers Branch and Sugar Creek; 4-room addition to Pfeiffer School near Lock Six, Stop 5, Dunbar carline; 2-room brick building near head of Wilson Hollow at Oak Hill; plans and specifications at office County Superintendent of Schools, Courthouse.

W. Va., Franklin.—Franklin Dist. Board of Education; erect 2-room school at Woco.

W. Va., London.—Cabin Creek Dist. Board of Education, J. F. Keeney, Secy., East Bank, W. Va.; erect school. (See W. Va., Wake Forest.)

W. Va., Sharon.—Cabin Creek Dist. Board of Education, J. F. Keeney, Secy., East Bank, W. Va.; erect school. (See W. Va., Wake Forest.)

W. Va., Wake Forest.—Cabin Creek Dist. Board of Education, J. F. Keeney, Secy., East Bank, W. Va.; bids until July 16 to erect 6-room school at Sharon, 2-room building at Wake Forest and 2-room building at London; plans and specifications at office Mr. Keeney and office County Superintendent of Schools, Charleston, W. Va.

W. Va., Warwood.—Richland District Board of Education, H. F. Robinson, Secy.; erect consolidated school in rural district, 1 mi. above forks of Short Creek on road to Clinton.

Stores.

Fla., Bartow.—Hebb & Collins Co.; erect cement building, Broadway and Boulevard.

Ky., Hazard.—D. Y. Combs; erect \$150,000 store and hotel; 4 stories and basement; 70x116 ft.; brick; A. Deats & Son, Archts., Lexington.

Ky., Prestonsburg.—H. F. Patton; erect \$12,000 store and office building; 35x64 ft.; brick; Johns-Mansville roof; concrete and pine floors; electric lights; hollow fireproof tile; metal ceilings; wire glass; J. M. King, Archt., Ashland, Ky.; bids opened about Aug. 1. (See Machinery Wanted—Building Material; Roofing; Plumbing; Electric Work.)

La., New Orleans.—United Hardware Co.; erect store, Canal St. between Franklin and Liberty Sts.

Miss., Summit.—C. Atkinson Sons Co.; erect \$30,000 store; 75x160 ft.; 1 story; brick and mill construction; built-up roof; concrete and wood floors; Kramer & Lindsley, Archts., Kress Bldg., Jackson, Miss. Address owner. (Lately noted.)

Mo., Kansas City.—H. Thwing, Finance Bldg.; erect 2-story building, 13th and Walnut Sts.; \$100,000; 10 storerooms on first floor; offices, second floor.

Mo., Kansas City.—H. A. Phillips, 4946 Prospect Ave.; erect store; 1 story and basement; 86x130 ft.; brick and reinforced concrete; composition roof; C. B. Sloan, Archt., 321 E. 11th St.

N. C., Marion.—Marion Grocery Co.; erect brick business building.

N. C., Warsaw.—John Quinn of Quinn-McGowan Co., Wilson, N. C.; erect \$30,000 store and \$20,000 residence.

N. C., Washington.—Miss L. T. Rodman; erect \$75,000 building; 2 stories; 130x80 ft.; Benton & Benton, Archts., Wilson, N. C., and Times-Dispatch Bldg., Richmond, Va.

Tex., Dallas.—Cruger I. Smith; erect addition to building, 3211 Oak Lawn St.; \$15,000.

Tex., Dallas.—A. Oppenheim; erect 1-story brick building, 2332 Pacific Ave.; 50x150 ft.; \$10,000.

Tex., Dallas.—D. B. Mayer; erect 1-story addition to building, 1317 Young St.; 45x30 ft.; \$20,000.

Tex., Dallas.—S. W. King, Jr.; erect 3-story brick building, 1323 Wood St.; 50x98 ft.; \$40,000.

Tex., San Antonio.—The Vogue Co.; expend \$125,000 to remodel building, Houston and Navarro Sts.; 5 stories; 50x156 ft.; provide arcade entrance, new show windows, vaulted dome ceiling on lower floor, install fixtures, etc.

Tex., Temple.—Fred Blohm; reported to erect brick building on Third St.

W. Va., Huntington.—Walter Lewis and M. Cohen Co.; erect 6-story business and office building, 4th Ave., between 8th and 9th Sts.; 30x200 ft.; stone, steel and frame; wood floors; city lights; \$30,000; L. J. Dean, Archt., Foster Bldg.; construction by owner. Address Mr. Lewis.

W. Va., Kimball.—Harry Bank; erect building for store, apartments and wareroom; 2 stories and basement; 50x100 ft.; brick;

\$30,000; Pedigo & Garry, Archts., Kelley-Moyer Bldg., Bluefield.

Theaters.

Fla., Clearwater.—Jno. S. Taylor, Largo, Fla.; erect theater; 50x115 ft.; hollow tile and stucco; Lester Avery, Archt., Clearwater. (Lately noted.)

Md., Baltimore.—Douglas Amusement Corp.; erect \$300,000 theater, 1317-25 Pennsylvania Ave.; 84x172 ft.; concrete and steel; slag roof; cement floors; steam heat; electric lights; metal ceilings; ornamental terra-cotta interior tile; metal doors; vault lights; ventilators; steel sash and trim; bids opened July 20; contractors estimating: Chas. L. Stockhausen Co., Natl. Marine Bank Bldg.; Price Constr. Co., Maryland Trust Bldg.; Consolidated Engineering Co., Calvert Bldg.; H. D. Watts Co., Garrett Bldg.; Singer-Pentz Co., Equitable Bldg.; Morrow Bros., Fidelity Bldg., all Baltimore; Jno. R. Wiggins Co., Otis Bldg.; Standard Constr. Co., 1713 Sansom St.; F. W. Van Loan, Denckla Bldg., all Philadelphia. Address Lachman & Murphy, Archts., Drexel Bldg., Philadelphia. (Lately noted.)

Mo., St. Louis.—Famous Players Missouri Corp., Fred L. Cornwell, Prest.; expend \$90,000 to remodel building, 207 N. Broadway, for motion-picture theater; 29x127 ft.

N. C., Bryson City.—K. E. Bennett and others; erect moving-picture theater in connection with office building; seat 500; J. E. Sirmine, Archt., Greenville, S. C.

Tex., Lockhart.—W. B. Swarenger of First Natl. Bank and others; erect \$50,000 theater, South Main St.; seat 800; brick.

Va., Franklin.—J. A. Pretlow, Mgr. company organizing to erect \$25,000 motion-picture theater; 1 story; 35x100 ft.; brick; W. Newton Diehl, Archt., New Monroe Bldg., Norfolk.

Warehouses.

Ala., Birmingham.—Board of Education; erect warehouse; plans and specifications at office of D. O. Whildin, Archt., 501-2 Title Guarantee Bldg.

N. C., Greenville.—E. G. Fleming; erect \$150,000 automobile storage warehouse; 3 stories; 45x120 ft.; reinforced concrete; Benton & Benton, Archts., Wilson, N. C., and Times-Dispatch Bldg., Richmond, Va.

S. C., Fairmont.—Fairmont Mfg. Co.; erect cloth storage warehouse; 40x80 ft.; 2 stories; also 1-story warehouse; 40x80 ft.; mill construction; fire protection; J. E. Sirmine, Archt.-Engr., Greenville.

Tex., Beaumont.—Phoenix Furniture Co.; erect \$17,000 warehouse, Laurel and Forest Sts.

Va., Norfolk.—Southgate Terminal Corp., T. S. Southgate, Prest.; erect \$10,000 warehouse and bulkhead; 1 story; 141x80 ft.; galvanized iron; B. F. Mitchell, Archt., Seaboard Bank Bldg.; construction by owner.

Va., Richmond.—A. G. Jones; erect \$350,000 furniture storage warehouse; 7 stories and basement; 68x150 ft.; reinforced concrete, brick, stone and terra-cotta; Moores & Dunford, Archts., 38 S. Dearborn St., Chicago.

\$2000; electric lights; C. M. Metsch, Archt., East Liverpool, O.; Finley Bros., Contrs., Chester.

Bank and Office.

Ga., Douglas.—Citizens' Bank of Douglas; remodel building, Ward St. and Peterson Ave.; R. N. McEachern, Contr.

Tex., San Antonio.—San Antonio Public

Service Co., E. H. Kifer, Gen. Mgr.; erect office building; \$220,000; 150x62 ft.; 3 stories and basement; designed to erect additional stories later; steel and concrete; concrete roof and floors; steam heat; conduit wiring, \$4000; electric passenger elevator \$9000; Altee B. Ayres, Archt.; Chas. M. Schoenfeld, Contr. (Lately noted.)

Md., Cumberland.—Liberty Trust Co.; remodel bank building, Baltimore and Center Sts.; \$100,000; terrazzo floors; The Fred T. Ley Co., Archt. and Contr., 19 W. 44th St., New York.

Va., Alta Vista.—R. L. Cummock; erect \$30,000 office building; 1 story; 55x30 ft.; Craighill & Cardwell, Archts., People's Bank Bldg.; Hamilton Bros., Contrs., Lynch Bldg.; both Lynchburg.

Churches.

Fla., Miami.—Beth David Congregation; remodel synagogue; \$10,000; P. J. Davis, Contr.

N. C., Gastonia.—Broad Street Presbyterian Church; erect \$25,000 building; Patillo Bros., Contrs.

S. C., Greenville.—Christ Church; erect \$30,000 Sunday-school addition; 2 stories; brick veneer; 50x60 ft.; J. E. Sirmine & Co., Archt.; E. A. Fonda, Contr.

Va., Richmond.—Mt. Olivet Baptist Church, Rev. J. A. Bowler, Pastor, 112 S. Leigh St.; erect \$12,000 building, 25th and S Sts.; 1 story; 40x57 ft.; C. T. Russell, Archt., Union University; Jas. Fox & Sons, Contrs., 25th and Franklin Sts. (Lately noted.)

Va., Richmond.—Church of the Holy Comforter, Rev. W. E. Cox, Pastor, 2110 Grover Ave.; erect \$125,000 church, parish-house and rectory, Grove and Rowland Sts.; 1 and 2 stories; Cram & Ferguson, Archts., 15 Beacon St., Boston, Mass.; C. H. Archer, Contr., 2515 Hanover Ave., Richmond. (Lately noted.)

City and County.

Okl., Tulsa.—Fire Station.—City Commrs.; erect \$11,100 Kendall fire station, 6th St. and Lewis Ave.; J. I. Harris, Contr. (Lately noted.)

Tex., San Antonio.—Fire Stations.—City, Phil Wright, Commr.; erect 4 fire stations and annex to central police and fire station; Station No. 3, \$24,077; Jacob Wagner & Son, Contrs.; No. 15, \$16,487, and No. 16, \$15,293; A. W. Fuessel, Contr.; No. 4, \$24,680, and annex to Central Police and Fire Station, \$23,580; J. De Puy, Contr. (Lately noted.)

Courthouses.

Okl., Frederick—Tillman County, Mrs. N. R. Stagg, Clk.; erect \$250,000 court house; 4 stories and basement; brick, stone and reinforced concrete; reinforced concrete floors; Tonini & Bramblet, Archts., 301 Terminal Bldg.; Dunning Constr. Co., Contr., both Oklahoma City. (Lately noted.)

Dwellings.

Md., Baltimore.—W. S. Sampson, Backus Motor Co.; erect residence, Hawthorne Rd., Roland Park; 26x45 ft.; frame; shingle sides; concrete foundation; slate roof; wood floors; steam heat; electric lights; Robt. L. Harris, Archt., 703 Calvert Bldg. Address Consolidated Engineering Co., Contr., Calvert Bldg.

Md., Baltimore.—Dr. H. C. Silver, 1914 Bolton St.; erect \$16,000 residence, Liberty Hts. Ave.; 28x31.8 ft.; brick and concrete; asbestos shingle roof; wood floors; N. Robertson Randle, Archt., 907 Light St.; Willard E. Harn Co., Contr., 2314 Oak St.

BUILDING CONTRACTS AWARDED

Association and Fraternal.

Ky., Ashland.—Salvation Army, Dr. S. P. Fetter, Chrmn. Bldg. Comm.; erect home; A. T. Abrams, Contr. for basement partitions and brick walls. (Previously noted.)

W. Va., Chester.—Masonic Temple Co., O. O. Allison, Chrmn.; erect \$20,000 building; lodge-room and banquet hall; 36x50 ft.; 2 stories; brick; slate roof; wood floors; steam heat,

N. C., Greensboro.—R. G. Sloan; erecting \$25,000 bungalow; Lanning & Coe, Contrs.

N. C., Winston-Salem.—A. F. Messick; erect \$30,000 residence, Buena Vista Rd.; 15 rooms; hollow tile and concrete; asbestos shingle roof; quartered oak floors; steam heat, \$2200; electric lights; C. Gilbert Humphreys, Archt.; T. W. Huffines, Contr. (Lately noted.)

Tex., New Braunfels.—Willie Dirks; erect \$15,000 bungalow; brick and tile; 6 rooms; cement porches; Spanish tile roof; hardwood floors; steam heat; Alfred Herry, Contr.

Tex., San Antonio.—C. B. Schoeppl Co.; erect \$20,000 residence, E. Hulsache Ave., for Judge C. K. McDowell; 2 stories and basement; reinforced concrete, brick and tile; 9 rooms; oak floors; tile floors in bathrooms; V. L. Rassmussen, Contr.

Tex., Stephenville.—Judge Fred Chandler; erect \$60,000 residence; contract let.

Tex., Waco.—Wm. Mayfield; erect \$12,500 residence, West Ave.; 2 stories; frame; asbestos tile or shingle roof; subcontracts for plumbing and wiring; Waller, Silber & Co., Archts., 507 Bedell Bldg., San Antonio. Address Wm. Bailey, Contr., Waco. (See Machinery Wanted—Asbestos Shingles.)

Va., Norton.—Geo. H. Esser; erect \$15,000 bungalow; 38x72 ft.; frame; asbestos roof; hardwood floors; interior tile; hot-water heat; Alex. B. Mahood, Archt., Bluefield, W. Va.; Joe Hunnycutt, Contr., Norton. (Lately noted.)

W. Va., Morgantown.—D. B. Reger, Wilson Ave.; erect \$13,000 residence; 2 stories and basement; 33x35 ft.; C. Reger, Archt., Traction Bldg.; E. R. Baker, Contr. (Previously noted.)

Government and State.

Va., Richmond.—Library.—Virginia State Library Board, Edmund Pendleton, Chrmn.; erect \$40,000 fireproof annex to library, Capitol Square; 2 stories; 40x50 ft.; brick, hollow tile and reinforced concrete; Baskerville & Lambert, Archts., Travelers' Bldg.; Saville & Claiborne, Contrs. (Previously noted.)

Hospitals, Sanitariums, Etc.

Ky., Louisville.—Red Cross Sanitarium Co., to hospital; 2 stories and basement; 25x61 ft.; 1436 S. Shelby St.; erect \$30,000 addition Loomis & Hartman, Archts., Todd Bldg.; Lithfield & Metzner Co., Contrs., 981 Logan St.

Hotels.

N. C., Southern Pines.—Highland Pines Hotel; expend \$75,000 to erect 32-room addition, 13 bathrooms and 3 cottages; hollow tile; J. J. Stroud, Contr., Southern Pines. (See Machinery Wanted—Building Material; Hollow Tile.)

Miscellaneous.

Ga., Savannah.—Exposition.—Building Committee, Savannah Fair, Inc.; erect 3 speed barns, 3 swine barns and 1 cattle barn at Savannah Tri-State Exposition; Levy & Clarke, Archts.; R. W. Whalley, Contr. (Previously noted.)

Md., Sparrows Point—Locker, etc.—Bethlehem Steel Co.; erect locker, 20x253 ft.; 2 toilet buildings, 21x21 ft.; brick and terra-cotta; slag roof; concrete floors; Singer-Pentz Co., Contr., Equitable Bldg., Baltimore; plans by owner.

Okla., Poteau—Fair.—City Park Commn., Mayor F. W. Bird and others; erect \$15,000 exhibit building and expend \$10,000 for other

structures; former, 160x70 ft.; frame; rubber-oid or similar roof; pine floors; city lighting; plans by City Archt.; T. Q. Milner, Contr. (Lately noted.)

Schools.

Ala., Birmingham.—Jefferson County Board of Education, Dr. N. R. Baker, Supt.; erect 6-room tile stucco junior high school at Graysville; \$30,000; also Powderly combination elementary and high school; 20 rooms and auditorium; 1 story; \$100,000; D. O. Whildin, Archt., Title Guarantee Bldg.; Miller Bros., Contrs.; both Birmingham. (Previously noted in part.)

Ky., Fort Thomas.—Board of Education, A. F. Scherer, Chrmn., Carolina Ave.; erect 3-story high-school addition; C. C. & E. A. Weber, Archts., Miller Bldg., Cincinnati, O.; Chas. Medermott, Contr., 4th and Walnut Sts., Cincinnati, brick masonry; August Notthaus, 236 Robert St., Newport, Ky., carpentry.

Ky., Owensboro.—County Board of Education; erect 2-room frame schools for Smock and Clements and Mt. Zion and Short schools; \$11,000; Leo Monarch, Contr.; Chestnut Grove school; 1 room; concrete; \$4000; Frank Gabbert, Contr.; install heating in Whitesville school, \$1000; J. W. Spurrier & Co., Contrs.; 1-room additions to Wayne, Crump, Sand Hill, Maceo schools, \$6000; Will Davis, Contr. (Lately noted in part.)

La., Alexandria.—Rapides Parish School Board, J. W. Bolton, Prest.; erect \$113,000 school, Monroe St.; 2 stories and basement; brick; pine floors; steam heat; 20 classrooms; Duncan & Barron, Archts., 120 Murray St., Alexandria; W. Quick, Contr., Lake Charles. (Previously noted.)

Mo., University.—Board of Education; erect \$112,000 school; fireproof; 12 rooms; composition roof; yellow pine and mastic linoleum floors; direct radiation heat and ventilation; W. B. Ittner, Archt., Board of Education Bldg.; E. C. Gehard Building Co., Contr., S. W. and Sulphur Aves., both St. Louis. (Lately noted.)

Mo., Palmyra.—Board of Education, Dr. T. A. Roselle, Prest.; erect \$60,000 high school; 2 stories and basement; 55x73 ft.; M. J. Geise, Archt., 800½ Main St.; Buerkin & Kaempfen, Contrs., both Quincy, Ill.

Tex., Fort Worth.—Texas Christian University; erect \$125,000 gymnasium; fireproof; Van Slyke & Woodruff, Archts.; K. H. Muse, Contr.

Tex., Gulf.—Matagorda Independent Dist. School Board, Bay City, Tex.; erect \$25,000 school; 1 story; brick; H. M. Nelson, Archt., Gulf; Mr. Shoult, Contr., Bay City. (Previously noted.)

Tex., Waco.—Baylor University; erect \$50,000 heating plant; equipment, \$10,000; reinforced concrete; J. S. Harrison & Son, Contrs. Address Birch D. Easterwood, Archt., Praetorian Bldg. (Lately noted.)

Va., Glen Wilton.—Botetourt County Board of Education, Fincastle; erect \$14,000 school; 2 stories and basement; G. R. Ragan, Archt., Terry Bldg., Roanoke; A. J. Miller, Contr., Buchanan.

Va., Richmond.—Church of Sacred Heart, Rev. D. J. O'Connell, Pastor; erect \$115,000 parochial school, Spruce St. and Floyd Ave.; 84x102 ft.; 2 stories and basement; brick, hollow tile and concrete; slate roof; tile and concrete floors; vapor heat, \$9000; Carneal & Johnston, Archts., Chamber of Commerce Bldg.; Allport Construction Co., Contr. (Previously noted.)

Stores.

Ala., Birmingham.—Fies Realty Co.; expend \$30,000 to repair and rearrange interior of

building, 1816 Fourth Ave. N.; Mann Bros., Contrs.; Harry W. Wheelock, Archt.

Ala., Selma.—J. Smith and E. D. Eliasberg; remodel store, Alabama Ave. and Washington St.; 50x160 ft.; steel and brick; metal roof; vault; L. R. Gilmore, Archt.-Contr. Address S. Eagle & Sons. (See Machinery Wanted—Heating Plant.)

Fla., Orlando.—Benjamin Drew; erect store and apartment building, Orange Ave.; 35x220 ft.; brick and tile; tin roof; cement floors; electric lights; Geo. Krug, Archt.; L. C. Townsend, Contr. (Lately noted.)

Fla., Jacksonville.—Golden's Bootery; remodel building, 37 W. Forsyth St.; 16x80 ft.; install new front, oak floors, shelving, mezzanine floor, etc.; Basil P. Kennard, Contr.

Fla., Tampa.—Dr. L. A. Blize, W. B. Gray and Oscar Daniels; erect 2-story brick business building, Franklin St. and Florida Ave.; 105x105 ft.; tapestry brick; 12 stories; 75 offices; \$100,000; Jno. W. Biggar, Archt.; Logan Bros., Contrs. (Lately noted.)

Ga., Atlanta.—Mrs. T. C. Owens; erect one-story-and-basement building; 40x120 ft.; Shelverton Construction Co., Contr., Atlanta Trust Bldg.

Ga., Atlanta.—Hagan & Dodd; erect 4-story building; 50x100 ft.; reinforced concrete; Shelverton Construction Co., Contr., Atlanta Trust Bldg.

Ga., Atlanta.—Rhett, O'Beirne & Lochridge; erect 3-story-and-basement building; 20x54 ft.; brick and frame; Shelverton Construction Co., Contr., Atlanta Trust Bldg.

Ga., Atlanta.—Hugh Richardson; remodel building; new front; 54x100 ft.; 2 stories; brick and frame; Shelverton Construction Co., Contr., Atlanta Trust Bldg.

Ky., Paducah.—McKinley-Guedry Grocery Co.; erect \$10,000 building, Second and Washington Sts.

Mo., Kansas City.—Steno Lasala, 540 Holmes St.; erect store and apartment building; 2 stories and basement; 30x50 ft.; C. B. Sloan, Archt., 321 E. 11th St.; Geo. Bernstein, Contr., 335 Monroe Ave.

N. C., Charlotte.—T. W. Wade; erect \$20,000 store building, S. Church St.; 1 story; pressed brick; Blythe & Isenhour, Contrs.

N. C., Charlotte.—Hardaway-Hecht Co., Chas. K. Hecht, Gen. Mgr.; erect 4-story building, S. Tyron St.; 200x50 or 75 ft.; concrete; 40,000 sq. ft. floor space; 2 electric elevators; Hardaway Contracting Co., Contr.

Tex., Dallas.—Chas. C. Cobb, North Texas Bldg.; erect \$50,000 store; 55x100 ft.; 2 stories; brick; gravel roof; cement and wood floors; C. D. Hill & Co., Archts.; H. J. Curtis, Contr. (Lately noted.)

Va., Norfolk.—Lowenberg-Goodman Corp.; erect \$20,000 store, Boush St.; 63x40 ft.; store-rooms, 15x40 ft.; brick; cement floors; 5-ply gravel roof; cantilever front; metal ceilings; ornamental terra-cotta; interior tile; ventilators; steel sash and trim; Miles E. Myers, Archt., 323 W. 14th St.; H. W. Roberts, Contr. (Lately noted.)

W. Va., Kenova.—J. W. Rife, O. J. Rife and P. H. Osborne; erect \$10,000 building for automobile and office rooms; 30x80 ft.; stone, concrete and tile; Johns-Manville roof; hardwood and concrete floors; gas heating; W. B. Smith, Archt., R. & P. Bldg., Huntington; W. T. Greensalt, Contr., Kenova. Address Kenova Auto Sales Co. (Lately noted.)

Theaters.

La., Monroe.—Saenger Amusement Co., main

office, New Orleans; erect \$250,000 theater; seating capacity 2000; contract let.

Md., Baltimore.—Lyric Co.; alter and improve interior of Lyric Theater; painting, decorating, rugs, curtains, draperies, etc.; Parker, Thomas & Rice, Archts., Union Trust Bldg.; Morrow Bros., Contrs., Fidelity Bldg. (Lately noted.)

N. C., Leaksville.—C. P. Wall and J. W.

Norman; erect theater; 32x100 ft.; 750 seats; J. A. Jones Constr. Co., Contr., Charlotte.

Warehouses.

Md., Baltimore.—C. Read & Co., 18 N. Greene St.; erect \$25,000 warehouse, 16 N. Greene St.; 21x73 ft.; 3 stories; brick and frame; slag roof; wood-joint floor construction; one 2000-

lb. freight and passenger elevator; Chas. M. Schroter, Archt., 243 Calvert Bldg. Address R. H. Frazier & Son, Contrs., 224 W. Mulberry St. (Lately noted under Stores.)

N. C., Winston-Salem.—Inverness Mills Co.; erect cotton warehouse; 50x100 ft.; mill construction; sprinklers; J. E. Sirrine, Archt.-Engr.; Gallivan Building Co., Contr., both Greenville, S. C.

MACHINERY, PROPOSALS AND SUPPLIES WANTED

Advertisers' Machinery.—Commercial Printing & Letter Service Co., 314 North Texas Bldg., Dallas, Tex.—Prices on mchy. used by direct advertisers.

Air Pump.—Ozark Trail Motor Co., J. M. Wilson, Propr., Springdale, Ark.—Prices on air pump for 50x100-ft. garage.

Alternator, etc.—High Point Machine Works, Shelby E. Corbitt, Sales Mgr., High Point, N. C.—Price to dealers complete and f. o. b. cars on second-hand 30 or 40 K. V. A. alternator; 3-phase, 60-cycle, 2300 volts, 1200 R. P. M., with exciter and switchboard.

Apple Butter Machinery, etc.—Ridgewood Orchard, C. F. Massey, Winchester, Va.—Data and prices on apple butter machinery, containers, supplies and allied items.

Architectural Literature, etc.—Mahan & Broadwell, Archts., American Bank Bldg., Memphis, Tenn.—Architectural and engineering literature.

Art Glass.—Waller, Silber & Co., 507 Bedell Bldg., San Antonio, Tex.—Art glass for church, Cameron, Tex.

Asbestos Shingles.—Wm. Bailey, Waco, Tex.—Asbestos shingles.

Bank Fixtures.—A. Roberts, Acting V. P. First National Bank, Beckville, Tex.—Safe, vault, other fixtures.

Bars (Reinforcing).—R. C. Hoffman & Co., Continental Bldg., Baltimore, Md.—200 to 500 tons reinforcing bars, sizes ¼ to 1 in.; deformed bars preferred.

Battery-charging Plant.—Ozark Trail Motor Co., J. M. Wilson, Propr., Springdale, Ark.—Prices on battery-charging plant for 50x100-ft. garage.

Boiler.—M. B. Parker, 1912 Oak St., Chattanooga, Tenn.—New or second-hand 80 H. P. locomotive firebox type boiler; immediate delivery.

Boiler.—C. M. Lilly Coal Co., Beckley, W. Va.—Prices on 100 H. P. tubular boiler.

Boiler.—J. R. C., 416 Hinton St., Petersburg, Va.—Kewanee steam boiler; 5000 to 6000 ft. capacity.

Boiler.—Yadkin Valley Mill & Lumber Co., Ronda, N. C.—100 H. P. boiler and 100 H. P. Corliss engine; first-class operating condition.

Boilers.—Hollingsworth Mercantile Co., Court Square, Newton, N. C.—Prices on boilers.

Boilers.—Thomas F. Carey Co., 120 Liberty St., New York.—1000 H. P. water-tube boilers; in good second-hand condition; 200 lbs. pressure; send full specifications, price and location in first letter.

Brake (Press).—Estate R. G. Holzer, 317 Burgundy St., New Orleans, La.—New or second-hand 10-ft. 6-in. cornice press brake.

Brick.—See Building Material.

Brick Machinery.—O'Steen Jewelry Co., Lakeland, Fla.—Names and addresses mfrs. sand-lime brick mchy.

Brick Machinery.—W. K. Lane, Box 563, Ocala, Fla.—Names and addresses mfrs. brick machinery.

Bridge Construction.—Madison County

Board of Revenue, C. H. Pulley, Prest., Huntsville, Ala.—Bids until July 31; 120-ft. span bridge; riveted steel truss; reinforced concrete substructure; 16-ft. roadway; specifications, etc., on file.

Bridge Construction.—Houston County Comms. Roads and Revenues, C. E. Brunson, Clerk, Perry, Ga.—Bids until July 27; changed date from July 1; reinforced concrete bridge at Big Indian Creek; Federal-aid Project 160; 47,091 lbs. reinforcing steel; plans, etc., on file at Perry, with E. N. Parker, Div. Engr., Dublin, Ga., and W. R. Neel, State Highway Engr., 700 Walton Bldg., Atlanta, Ga.

Bridge Construction.—Houston County Comms. Roads and Revenues, Perry, Ga.—Bids until Aug. 8; 8 bridges; 60x130 ft.; concrete slab floor on concrete piles; 4 bridges with abutments; \$100,000; E. N. Parker, Div. Engr., 302 Burch Bldg., Dublin, Ga.

Bridge Construction.—Houston County Comms. Roads and Revenues, Perry, Ga.—Bids until July 27; changed date from July 1; reinforced concrete bridge with earth approaches at Big Indian Creek, on Perry-Henderson Rd.; Federal-aid Project 160; E. N. Parker, Div. Engr., 302 Burch Bldg., Dublin, Ga.

Bridge Construction.—Decatur County Comms. Roads and Revenues, R. G. Hartsfield, Clerk, Bainbridge, Ga.—Bids until July 30; reinforced concrete deck girder bridge over Spring Creek, Decatur County; plans, etc., on file at Bainbridge, with Div. Engr., State Highway Dept., Second Road Dist., Thomasville, Ga., and State Highway Engr., Atlanta, Ga.

Bronze Rope, etc.—Panama Canal, A. L. Flint, Gen. Purchasing Officer, Washington, D. C.—Bids until July 22 to furnish: Bronze rope; wire netting; steel and metallic tapes; thermometers; snatch and tackle blocks; fire extinguishers; bronze bars; bolts; transom catches; drawer handles; hasps; shower heads; knobs and handles; night latches; locks; draw pulls. Blank forms and information (Circular 1385) on application to offices of: Panama Canal; Asst. Purchasing Agents at 24 State St., New York; 606 Common St., New Orleans; San Francisco; United States Engr. offices throughout country.

Building Material.—W. F. Hooker, Hico, Tex.—Metal lath, face brick, coal chute, etc., for residence.

Building Material.—Louisiana College, J. E. Oliver, Mgr., Pineville, La.—Building material for 3-story brick and tile administration building; 60x235 ft.; desires correspondence, catalogs, prices, etc., from manufacturers.

Building Material.—J. J. Stroud, Southern Pines, N. C.—Hollow tile.

Building Material.—H. D. Watts Co., Garrett Bldg., Baltimore, Md.—Estimates until July 19 on building material, including brick, steel, cement, roofing, etc., for theater; 90x172 ft.

Building Material.—Willis Irvin, 1403-6 Lamar Bldg., Augusta, Ga.—Catalogues and prices on building materials, including brick,

lumber, etc.; wants school equipment; heating and ventilating plants; electric-light fixtures; also estimates from parties to handle local granite quarry and deliver rough rubble stone; correspondence from all material men for erection \$100,000 school building, Graniteville, S. C.

Building Material.—Waller, Silber & Co., 507 Bedell Bldg., San Antonio, Tex.—Steel roof construction, organ, art glass, coal chutes, sidewalk lights, etc., for \$60,000 church, Cameron, Tex.

Building Material.—Xavier A. Kramer, Magnolia, Miss.—Bids on 6x6-in. tile, tile roofing, cement, brick, etc., for hotel at McComb, Miss.

Building Material.—H. F. Patton, Prestonsburg, Ky.—Flooring, lumber, doors, glass, finishing, Johns-Manville roof; plumbing, water and electric equipment for \$12,000 residence.

Building Materials.—Monkton Roller Mills, Otis E. McCoy, Prest., Mt. Washington, Md.—5000 bbls. cement, 1½x6-in. Y. P. lumber, 3000 tons graded reinforcing steel, Ransom twisted, gasoline tractor for road work, road grader, hoisting engine with boiler, galvanized iron culvert pipe, catalogues of steel sash, office equipment and contractors' equipment, prices on hollow tile for 75 houses; delivered to Timonium, Md.

Bulkhead.—City, Board of Awards, City Hall, Baltimore, Md.—Bids until July 14; construct stone, concrete and timber bulkhead north side Center Pier, Back Basin; plans on file or with Harbor Board, Recreation Pier; Bancroft Hill, Harbor Engr.

Canning Equipment.—See Kraut Machinery.

Canning Equipment.—Ridgewood Orchard, C. F. Massey, Winchester, Va.—Data and prices on canning equipment for apple butter.

Cars.—Machinery & Supply Co., R. S. Petty, Mgr., 120 Buchanan St., Greensboro, N. C.—36-in. gauge log cars.

Cars.—Greenstone Products Corp., H. Wanke, Supt., Thurmont, Md.—Ore cars.

Cartons.—Vogeler Drug Co., Edward Jerome Vogeler, Prest.-Mgr., 215 N. Liberty St., Baltimore, Md.—Printed cartons for patent medicines.

Cash Register.—P. M. Sanders & Co., Aliceville, Ala.—New or second-hand cash register.

Catalogs, Etc.—Louisiana College, J. E. Oliver, Mgr., Pineville, La.—Catalogs, prices, etc., from manufacturers of building material. (See Building Material.)

Cement.—See Building Material.

Cement.—See Building Material.

Cement.—Houston County Comms. Roads and Revenues, Perry, Ga.—Prices on cement f. o. b. Dublin, Ga.

Cement.—Monkton Roller Mills, Otis E. McCoy, Prest., Mt. Washington, Md.—5000 bbls. cement.

Cement.—C. M. Lilly Coal Co., Beckley, W. Va.—Prices on carload cement.

Cement.—R. C. Hoffman & Co., Continental Bldg., Baltimore, Md.—900 bbls. cement in wood for export; delivery at seaport.

Channel Protection.—Little River Drainage Dist. Supvrs., John H. Himmelberger, Prest.; L. L. Hiding, Chief Engr., Cape Girardeau, Mo.—Bids until July 19; construct 70,000 sq. yds. channel protection; 35,000 sq. yds. each willow mattress and hand-placed rock slope paving; plans on file and with Morgan Engineering Co., Engr., Memphis, Tenn.

Coal Chutes.—Waller, Silber & Co., 507 Bedell Bldg., San Antonio, Tex.—Coal chutes for church, Cameron, Tex.

Coal Chute.—W. F. Hooker, Hico, Tex.—Coal chute for residence.

Compressor.—Rampus Stone Co., Mascot, Tenn.—Belt-driven air compressor, 100 lbs. pressure; capacity 250 to 350 cu. ft. per min.

Compress Supplies.—Choate & Co., K. E. Choate, 3619 Graustark Ave., Houston, Tex.—2, 3 and 4-gauge cotton wire buckets; new and rerolled cotton ties, not riveted; cotton bagging and bags for patches; No. 3 black tinner's rivets; car lots; purple and green marking ink powder; 500-lb. lots.

Concrete Cross.—Princess George County (Md.) Memorial Committee, George A. Ricker, Dist. Engr., Washington, D. C.—Bids until August 10; construct 40x16 ft. reinforced concrete cross finished with white cement; plans with L. B. Foster, 421 Union Trust Bldg., Washington, D. C.

Containers.—Ridgewood Orchard, C. F. Massey, Winchester, Va.—Data and prices on containers for apple butter.

Cornice Brake.—Estate R. G. Holzer, 317 Burgundy St., New Orleans, La.—10-ft. hand cornice brake, capacity 18 or 20-gauge soft sheet metal; new or second-hand 10-ft. hand cornice brake, capacity 18 or 20-gauge soft sheet metal.

Crane Runway.—Cincinnati Iron & Steel Co., Harry C. Busch, Prest., Cincinnati, O.—Prices on crane runway carrying bridge with two 5-ton lifts; length of crane, either 500, 600 or 700 ft.; height, 25 ft. more or less; span, 85 ft.

Crusher.—R. C. Hoffman & Co., Continental Bldg., Baltimore, Md.—Gates or Austin gyratory stone crusher; capacity 200 to 225 yds. per 10-hour day.

Drainage System.—Phillips County Commissioners, Little Cypress D. Drainage Dist., Helena, Ark.—Bids until July 22; construct 30 mi. canals; 400,000 cu. yds. excavation; plans with Quarles Hurlbutt Engineering Co., Engr.

Drugs.—Vogeler Drug Co., Edward Jerome Vogeler, Prest.-Mgr., 215 N. Liberty St., Baltimore, Md.—Drugs for the mf. of hair tonic.

Electric-light Fixtures.—Willis Irvin, 1403-6 Lamar Bldg., Augusta, Ga.—Electric-light fixtures for school building, Graniteville, S. C.

Electric Work.—See Building Material.

Engine.—Monkton Roller Mills, Otis E. McCoy, Prest., Mt. Washington, Md.—Hoisting engine with boiler.

Engine.—Straight Electric Co., Box 408, Des Moines, Iowa.—Fairbanks-Morse 25 H. P. special electric type Y semi-Diesel fuel oil engine; description and lowest price in first letter.

Engine.—Yadkin Valley Mill & Lumber Co., Ronda, N. C.—100 H. P. boiler complete and 100 H. P. Corliss engine; first-class operating condition.

Engines.—Hollingsworth Mercantile Co., Court Square, Newton, N. C.—Prices on engines, etc.

Engineering Literature.—etc.—Horace B. Hammond, Greenwood, Miss.—Engineering and architectural literature.

Engine Flywheel.—North Georgia Marble

Products Co., Whitestone, Ga.—New or second-hand engine flywheel with 5-in. bore, 60-in. diam., 16-in. rim, 1½ in. thickness of rim, 1¼ in. keyway.

Fertilizer Mixer.—Crutchfield Motor Co., St. Matthews, S. C.—Small fertilizer mixing plant.

Fire Apparatus.—M. T. Sharp, Corinth, Miss.—Fire-fighting apparatus.

Generators.—Lignite Products Co., Henry A. Allen, Engr., 23 Metropolitan Bldg., Chicago, Ill.—Generators for destructive distillation plant using lignite.

Generator.—Straight Electric Co., Box 408, Des Moines, Iowa.—30 K. W., 60-cycle, 3-phase, 2300-volt generator, complete with switchboard and exciter; description and lowest price in first letter.

Generator Set.—H. M. Davidson, Mgr. Pointlick Coal Co., Charleston, W. Va.—100 K. W. motor generator set.

Grading.—District Comms., Room 500 District Bldg., Washington, D. C.—Bids until July 22; grade 11,200 cu. yds. streets; plans, etc., with Chief Clerk Engineer Dept., Room 427 District Bldg.

Granite and Stone.—Willis Irvin, 1403-6 Lamar Bldg., Augusta, Ga.—Estimates from parties to handle local granite quarry and deliver rough rubble stone for erection of school building, Graniteville, S. C.

Hammer and Compressor.—Estate R. G. Holzer, 317 Burgundy St., New Orleans, La.—New or second-hand pneumatic riveting hammer and air compressor, complete, with motor; riveting capacity ¾-in. 100 ft. air.

Heating Plant.—S. Eagle & Sons, Selma, Ala.—Heating plant for store building; 50x160 ft.

Heating and Ventilating Plant.—Willis Irvin, 1403-6 Lamar Bldg., Augusta, Ga.—Heating and ventilating plant for school building, Graniteville, S. C.

Hoisting Machinery.—H. M. Davidson, Mgr. Pointlick Coal Co., Charleston, W. Va.—6-ft. drum or incline machine.

Hollow Tile.—See Building Material.

Leather Machinery.—Victor Michael, 455 State St., Mobile, Ala.—Names and addresses makers mchy. to mf. leather suitcases, grips, pocketbooks, etc.

Kraut Machinery.—Hollingsworth Mercantile Co., Court Square, Newton, N. C.—Prices on mfg. outfits for kraut; boiler, engine, fermenting vats, cutters, cans, sealers, closing machines, etc.

Lathes.—Ozark Trail Motor Co., J. M. Wilson, Propr., Springdale, Ark.—Prices on lathes for 50x100-ft. garage.

Leather Products.—Victor Michael, 455 State St., Mobile, Ala.—Names and addresses mf. suitcase frames, pocketbook trimmings, etc.

Locomotive.—Machinery & Supply Co., R. S. Petty, Mgr., 120 Buchanan St., Greensboro, N. C.—5 to 7-ton gasoline locomotive, 36-in. gauge.

Locomotive.—H. M. Davidson, Mgr. Pointlick Coal Co., Charleston, W. Va.—12-ton 44-gauge steam locomotive.

Locomotives.—John G. Duncan Co., N. E. Cor. Central and Jackson Sts., Knoxville, Tenn.—First-class used 12, 14, 16 or 18-ton 42-in. gauge saddle-tank locomotive or gasoline or oil locomotive; immediate delivery; prices on new locomotives.

Metal Lath.—See Building Material.

Mill Supplies.—Greenstone Products Corp., H. Wanke, Supt., Thurmont, Md.—Mill supplies.

Mining Machinery.—Alabama Coal Co., Box 1934, Tulsa, Okla.—Mining machinery, including tripes, motor trucks, etc.

Motor.—See Hammer and Compressor.

Motors.—Lignite Products Co., Henry A. Allen, Engr., 23 Metropolitan Bldg., Chicago, Ill.—Motors for destructive distillation plant using lignite.

Meter (Steam).—Eustis Ice Co., Eustis, Fla.—Meter to measure steam for commercial purposes.

Motors.—Lees-McRae Institute, Banner, Elk, N. C.—Single-phase motors for A. C.

Motors.—Ozark Trail Motor Co., J. M. Wilson, Propr., Springdale, Ark.—Prices on motors for 50x100-ft. garage.

Motor Cars.—Orvananos y Zuniga, S. En C, Ave. 5 de Mayo 3 Bks., Leon, Gto., Mex.—Gasoline motors for street-car service.

Motor Car Accessories.—etc.—Sax-Wears, Ltd., F. N. Saxelby, Director, George St., Coventry, England.—To represent mf. of and dealers in: Motor car tool kits; pliers; hand tools for repairs of cycles; motorcycles and motor cars; particularly interested in Seabrook type of adjustable spanner, 6, 7, 9, 11 and 15 in. long.

Motor Trucks.—Alabama Coal Co., Box 1934, Tulsa, Okla.—Motor trucks for coal trade.

Organ.—Waller, Silber & Co., 507 Bedell Bldg., San Antonio, Tex.—Organ for church, Cameron, Tex.

Paving.—City, Jno. W. Owens, Clk., Fort Myers, Fla.—Bids until Aug. 5; 25,745 sq. yds. pavements on Oak, Hendy, Monroe and 1st Sts.; cement concrete, asphaltic concrete, sheet asphalt, asphaltic block, vitrified brick; specifications, etc., with J. A. Davison & Son, Engrs.

Paving.—Morgan County Comms., M. S. Harrison, Clerk, Berkeley Springs, W. Va.—Bids until July 17; 3000 ft. concrete pavement on Hancock-Berkeley Springs road, 16 ft. wide; plans, etc., with F. L. Hawkins, Road Engr., Berkeley Springs; Div. Engr., Keyser, W. Va., and State Road Comm., Charleston, W. Va.

Paving.—City, T. M. Randolph, Clerk, Marietta, Okla.—Bids until July 15; 22,360 sq. yds. paving on W. Second, W. Third and W. Fourth Aves.; 16,400 lin. ft. gutter; 16,210 lin. ft. curb; plans, etc., with Henry Exall Elrod Co., Const. Engr., 220 Interurban Bldg., Dallas, Tex.

Paving.—City, W. W. Dunnelliff, Clerk, Okcechohee, Fla.—Bids until July 19; 10 mi. streets; install water and sewer systems; plans, etc., with W. B. Clay, City Engr.

Pipe.—Tri-State Mineral Co., C. E. Bonesteel, Mgr., Box 34, Franklin, N. C.—Bids on 3000 ft. 2-in. pipe.

Pipe.—District Comms., 509 District Bldg., Washington, D. C.—Bids until July 15; furnish cast-iron water pipe; plans, etc., from Purchasing Officer, 320 District Bldg.

Pipe.—Monkton Roller Mills, Otis E. McCoy, Prest., Mt. Washington, Md.—Galvanized iron culvert pipe.

Piping.—Paris Oil Syndicate, E. A. Mossman, Mgr., 504 City National Bank, Paris, Tex.—6 to 10-in. piping.

Piping.—Lees-McRae Institute, Banner, Elk, N. C.—1000 ft. 26-in. piping for 50-ft. head.

Pipe Threader.—Wright Machine Co., 325 E. 2d St., Owensboro, Ky.—New or second-hand Landis pipe-threading machine, to cut from 1 to 6 in.

Plaster Paris.—R. C. Hoffman & Co., Continental Bldg., Baltimore, Md.—50 to 100 lbs. plaster paris; delivery at seaport.

Plumbing.—See Building Material.

Presses.—Tri-State Mineral Co., C. E. Bonesteel, Mgr., Box 34, Franklin, N. C.—Bids on 12 or more No. 18 Bliss power presses or No. 29 Swaine power presses.

Quarry Plant.—Greenstone Products Corp., H. Wanke, Supt., Thurmont, Md.—Quarry equipment and mill supplies, including operating tools, rails, cars, loaders, steam shovel, etc.

Rails.—Machinery & Supply Co., R. S. Petty, Mgr., 120 Buchanan St., Greensboro, N. C.—1 mi. 20-lb. rails.

Rails.—Greenstone Products Corp., H. Wanke, Supt., Thurmont, Md.—Rails.

Rails, etc.—Caldwell Bros., Columbia, Tenn. Quick delivery on following: No. 9½ 90-lb. spring frogs, right and left-hand; 15 ft. 90-lb. switch complete; Weir high adjustable switch stands; switch point guards; switch lamps; switch locks; 15 ft. 90-lb. guard rails complete; Weir guard rail clamps, 90 lbs.; 4.34 tons, 324 lin. ft. 90-lb. rails; 7.31 tons, 636 lin. ft. 80-lb. rails; 18 pairs splices, 90 lbs.; 22 pairs splices, 80 lbs.; 4 pairs offset splices, 80 to 90 lbs.; bolts, 90-lb. rails; bolts, 80-lb. rails; nut lock for 90-lb. rail; nut lock for 80-lb. rail; spikes; 308 tie plates, intermediate, 90 lbs.; 160 tie plates, intermediate, 80 lbs.; 48 tie plates, joint, 90 lbs.; 8 tie plates, joint, 80 lbs.

Rails, Ties, etc.—Blue Ridge Development Co., W. T. Shipp, Gen. Mgr., Newton, N. C.—Steel rails and crossies for electrical railway.

Refrigerating Plant.—McCulley & Co., W. O. McCulley, Mgr., Brownwood, Tex.—Prices on 6-ton refrigerating plant, capacity of cooling 7800 cu. ft. air space to about 20 degrees F.

Road Construction.—Rusk County, R. T. Brown, Judge, Henderson, Tex.—Bids until July 16; 22 mi. Henderson to Tatum road; 9 mi. Henderson to Chapman road; 8½ mi. Henderson toward Laneville road; 5 mi. Henderson toward New Salem road; plans, etc., with County Judge, Henderson, and Hess & Skinner, Engrs., Dallas, Tex.

Road Construction.—North Carolina State Highway Comsn., Div. Office, Greensboro, N. C.—Bids until July 30; 7.205 mi. State Highway in Rowan County; Federal-aid Project 57; 18,760 cu. yds. topsoil surfacing; plans, etc., with State Highway Comsn., Raleigh, N. C.

Road Construction.—Morgan County Commissioners, M. S. Harmon, Clerk, Berkeley Springs, W. Va.—Bids until July 27; 18 mi. Long Hollow road in Cacapon Dist.; plans, etc., with F. L. Hawkins, Road Engr.

Road Construction.—State Highway Dept. of Georgia, Atlanta, Ga.—Bids until July 19; 7.94 mi. Jasper-Canton road, macadam, Pickens County; Federal-aid Project 119; plans, etc., with county officials at courthouses of counties; W. R. Neel, State Highway Engr., 700 Walton Bldg., Atlanta, Ga., and H. W. Morgan, Div. Engr., Jackson Bldg., Gainesville, Ga.

Road Construction.—Rapides Parish Police Jury, J. F. Ball, Prest., Alexandria, La.—Bids until July 12; clear, grade and construct bridges on 1½ mi. Glenmora-Westport highway; plans, etc., with Ira W. Sylvester, Engr., Rapides Bank Bldg.

Road Construction.—Rapides Parish Police Jury, J. F. Ball, Prest., Alexandria, La.—Bids until July 12; 5½ mi. Bayou Boeuf Rd.; culverts; plans, etc., with Ira W. Sylvester, Engr., Rapides Bank Bldg.

Road Construction.—Acadia Parish Supvrs. Road Dist. 4, R. L. Doucet, Secy., Crowley, La.—Bids until July 24; 25 mi. road; sand-clay gravel; plans, etc., with Merrill Bernard, Engr., Dusan Bldg.

Road Construction.—State Highway Dept. of Georgia, Atlanta, Ga.—Bids until July 19; 2.3 mi. Gainesville-Lawrenceville road, Gwinnett County; plans, etc., with county officials at courthouses of counties; W. R. Neel, State

Highway Engr., 700 Walton Bldg., Atlanta, Ga., and H. W. Morgan, Div. Engr., Jackson Bldg., Gainesville, Ga.

Road Construction.—State Highway Dept. of Georgia, Atlanta, Ga.—Bids until July 19; 5.4 mi. Blue Ridge-Blairsville road; Federal-aid Project 118, Fannin County; plans, etc., with county officials at courthouses of counties; W. R. Neel, State Highway Engr., 700 Walton Bldg., Atlanta, Ga., and H. W. Morgan, Div. Engr., Jackson Bldg., Gainesville, Ga.

Road Construction.—State Highway Dept. of Georgia, Atlanta, Ga.—Bids until July 19; 6½ mi. Blairsville-Dahlonega road; Federal-aid Project 111, Union County; plans, etc., with county officials at courthouses of counties; W. R. Neel, State Highway Engr., 700 Walton Bldg., Atlanta, Ga., and H. W. Morgan, Div. Engr., Jackson Bldg., Gainesville, Ga.

Road Construction.—State Highway Dept. of Georgia, Atlanta, Ga.—Bids until July 19; 7.96 mi. Dahlonega-Brookton road, Lumpkin County; Federal-aid Project 82; redress and topsoil 3.12 mi. road, Federal-aid Project 6-B; plans, etc., with county officials at courthouses of counties; W. R. Neel, State Highway Engr., Walton Bldg., Atlanta, Ga., and H. W. Morgan, Div. Engr., Jackson Bldg., Gainesville, Ga.

Road Construction.—State Highway Dept. of Georgia, Atlanta, Ga.—Bids until July 19; 14.63 mi. Gainesville-Lawrenceville road; Federal-aid Project 44, Hall County; plans, etc., with county officials at courthouses of counties; W. R. Neel, State Highway Engr., 700 Walton Bldg., Atlanta, Ga., and H. W. Morgan, Div. Engr., Jackson Bldg., Gainesville, Ga.

Road Construction.—Pearl River County Supvrs., Poplarville, Miss.—Bids until Aug. 4; changed date from June 10; 12.98 mi. road between Poplarville and Lumberton; Federal-aid Project 93; plans, etc., with Clerk at Poplarville, Miss., and State Highway Dept., Xavier A. Kramer, Engr., Jackson, Miss.

Road Construction.—Alcorn County Highway Comsn., Corinth-Iuka Road Dist., Corinth, Miss.—Bids until July 29; 3.1 mi. road between Memphis and Chattanooga; Federal-aid Project 31; plans, etc., with Clerk, Corinth, Miss., and State Highway Dept., Xavier A. Kramer, Engr., Jackson, Miss.

Road Construction.—Panola County Highway Comsn., Central Road Dist., Sardis, Miss.—Bids until July 30; 34 mi. road between Memphis and Grenada; Federal-aid Project 55; plans, etc., from Clerk at Sardis, Miss., and Xavier A. Kramer, State Highway Engr., Jackson, Miss.; M. L. Culley, Project Engr., Jackson, Miss.

Road Construction.—State Highway Dept. of Georgia, Walton Bldg., Atlanta, Ga.—Bids until July 19; 6½ mi. graded road between Blairsville, Ga., and Blairsville-Dahlonega Rd.; Federal-aid Project 111, Union County; wood-truss bridges; plans, etc., with W. R. Neel, State Highway Engr., Walton Bldg., Atlanta, Ga.; Div. Engr., Jackson Bldg., Gainesville, Ga., and Asst. Div. Engr., Blue Ridge, Ga.

Road Construction.—Issaquena County Commrs. Fourth Supvrs.' Separate Road Dist., O. H. Keep, Commr., Mayersville, Miss.—Bids until July 26; earthwork on Mayersville-Rolling Fork Rd.; plans, etc., with Southern Engineering Co., Engr., Clarksville, Miss.

Road Machinery.—M. T. Sharp, Corinth, Miss.—Tractor; roller; scarifier.

Road Machinery.—Monkton Roller Mills, Otis E. McCoy, Prest., Mt. Washington, Md. Gasoline tractor for road work; road grader.

Roofing.—See Building Material.

Roofing.—See Building Material.

Roofing.—O. A. Smith Co., 83 Marietta St., Atlanta, Ga.—Names and addresses mfrs. of roll roofing, slate coated, in diamond, tile or other effects.

Safe.—See Bank Fixtures.

Sandpaper Machine.—Perry-Mann Electric Co., Columbia, S. C.—Data and jobbers' prices on portable machine to sandpaper hardwood floors.

Saws, Reamers, etc.—Panama Canal, A. L. Flint, Gen. Purchasing Officer, Washington, D. C.—Bids until July 30 to furnish: Steel; iron or steel roofing; copper; pig-iron, tin and lead; iron or steel pipe; chain; shackles; copper wire; steel rope; horse and mule shoes; ring bolts; steel or iron nuts; oil-burning ranges; blueprint paper cutting and trimming tables; blowers; platform scales; cargo trucks; fire extinguishers; water buckets; barrel bolts; hinges; locks; turn-buckles; water coolers; pipe fittings; valves; steel desks; wooden office chairs; tackle and chain blocks; pipe vices; hand saws; reamers; files; post hole diggers; wrenches; bronze strips, letters and grill work; wire netting; lanterns; cuspidors; handles; rubber tubing, matting, hose and tires. Blank forms and information (Circular 1356) on application to offices of: Panama Canal; Asst. Purchasing Agents at 24 State St., New York; 606 Common St., New Orleans; San Francisco; United States Engr. offices throughout country.

School Equipment.—Willis Irvin, 1403-6 Lamar Bldg., Augusta, Ga.—Equipment for \$100,000 school building, Graniteville, S. C.

Sewer.—City of Okeechobee, Fla., W. W. Duncicliiff, Clerk.—Bids until July 19; install sewer system; plans, etc., from W. B. Clay, City Engr.

Shovel (Steam).—Texas Sulphur Co., P. O. Box 1148, Orange, Tex.—Steam shovel for sulphur mines.

Shovel (Steam).—John G. Duncan Co., N. E. Cor. Central and Jackson Sts., Knoxville, Tenn.—Dealer's price, for quick delivery, on a traction shovel; ¾ to ¾-yd., for handling bauxite ore.

Shovel (Steam).—Greenstone Products Corp., H. Wanke, Supt., Thurmont, Md.—Steam shovel.

Shovel.—Lignite Products Co., Henry A. Allen, Engr., 23 Metropolitan Bldg., Chicago, Ill.—Steam shovel for lignite mines.

Shear.—Estate R. G. Holzer, 317 Burgundy St., New Orleans, La.—New or second-hand 10-ft. power squaring shear; capacity 3-16 soft steel.

Sidewalk Lights.—Waller, Silber & Co., 507 Bedell Bldg., San Antonio, Tex.—Sidewalk lights for church, Cameron, Tex.

Soaps.—Vogeler Drug Co., Edward Jerome, Vogeler, Prest.-Mgr., 215 N. Liberty St., Baltimore, Md.—Liquid soaps.

Steel.—See Building Material.

Steel.—Houston County Commrs. Roads and Revenues, Perry, Ga.—Prices on steel; f. o. b. Dublin, Ga.

Tank.—J. H. Cochran, 210 Keller Bldg., Louisville, Ky.—Steel tank, hemispherical bottom; 55,000 to 75,000 gals.; with steel tower not less than 65 ft. to bottom of tank; 8-in. standpipe.

Tanks.—Paris Oil Syndicate, E. A. Mossman, Mgr., 504 City National Bank, Paris, Tex.—Four 250-bbl. steel tanks.

Textile Machinery.—Jay W. Nelson, Box 25, Helena, Ark.—New or used spinning and other textile mch.; delivered in 6 to 12 mos.

Ties.—Blue Ridge Development Co., W. T. Shipp, Gen. Mgr., Newton, N. C.—Crossies for electrical railway.

Tile.—C. M. Lilly Coal Co., Beckley, W. Va. Prices on 750 ft. 8-in. sewer tile.

Tile.—See Building Material.

Tipples.—Alabama Coal Co., Box 1934, Tulsa, Okla.—Tipples.

Vault.—See Bank Fixtures.

Washing Machines.—M. O. Efrid, Durham, N. C.—Names and addresses mfrs. hand and motor power washing machines.

Water-works.—City of Okeechobee, Fla., W. W. Dunncliff, Clerk.—Bids until July 19; install water-works; plans, etc., from W. B. Clay, City Engr.

Wheels (Iron).—W. B. Alford, Secy.-Treas. Cowan-Alford Boring Machine Co., Macon, Ga.—Names and addresses mfrs. iron wheels for wagons, small trucks, etc.

Wire Straightener.—American Collapsible Box Co., Walnut Cove, N. C.—Wire straightening machine for 16 to 18-gauge galvanized wire; with or without automatic cutoff.

Woodworking Machinery.—S. L. Williams, Treas.-Mgr. Hardwood Mfg. Co., Johnson St. and Seaboard Air Line Railway, Charlotte, N. C.—Woodworking mch., including matchers, single surfacer, jointer, band saw, shaper, mortising machine, door clamps, sander

Railroad Construction

Railways.

N. C., Mt. Holly.—Blue Ridge Development Co. organized; J. D. Elliott, Prest., Hickory, N. C.; A. P. Rhyne, 1st V.-P., Mt. Holly; W. T. Shipp, Gen. Mgr., Newton, N. C.; plans to build freight and passenger railway, Mt. Holly to Blowing Rock, 75 mi.; electrical power; purchase electricity from distributing companies. (Lately noted chartered with \$500,000 authorized capital.)

Okla., Osage.—Missouri, Kansas & Texas Ry. Co. is reported to have let contract to List & Gifford of Kansas City, Mo., to extend and rearrange the Osage yards. About 70,000 yards of grading and 5 mi. of track to be built, besides other work. F. Ringer, St. Louis, Mo., is Ch. Engr.

W. Va., Spring Creek.—Spring Creek Lumber Co. plans to construct 15 to 18-mi. standard-gauge railroad connecting with Greenbrier branch of Chesapeake & Ohio Ry. It will develop 10,000 acres Greenbrier county timber, and D. E. Lutz, Elkins, W. Va., will be manager.

also made equally interesting records in drilling this alloy steel. Holes three inches deep were drilled in nine seconds with 1-inch, 1½-inch and 1¾-inch drills, attaining a penetration of 1 inch every three seconds, which is considered a remarkable record in drilling steel of this character. These demonstrations were made with the purpose of maintaining maximum and economical productions at speeds and feeds which could be duplicated under shop conditions.

Pumps for Contractors and Others.

Power force-pump units of the suction type, temporary water-system units for road builders, contractors, well drillers, etc., are finely described and illustrated in Bulletin No. 19-F of the Domestic Engine & Pump Co., Shipensburg, Pa. There are also several other superior bulletins issued by this company and prepared in the same style, relating to different products of the Domestic make, as follows: No. 20-C, directed-connected centrifugal pumping units; No. 20-D, diaphragm power pumping units, contractors' trench, sewer, ditch and mud pumpers; No. 20-E, portable and semi-portable gasoline engines (No. 20-G is a "pumping guide"); No. 20-J, domestic pump jacks; No. 20-O, duplex horizontal, outside packed plungers, single acting, high-pressure pump units; No. 20-T, high-pressure, horizontal triplex pump unit. Everyone having to use this kind of machinery will find these publications excellent and valuable.

INDUSTRIAL NEWS OF INTEREST

Items of news about industrial, railroad or financial interests, building operations, construction work municipal improvements, or the sale of machinery or the letting of contracts in the South or Southwest, are invited from our readers whether they are advertisers or subscribers or not. We invite information of this character from readers in the North and West about their Southern business operations, as well as from Southern readers. News of value will be published just as readily when from non-advertisers as from advertisers.

Construction Equipment for Sale.

Contractors and dealers interested in construction equipment with accompanying material are notified that an important sale will be held on July 23. This sale comprises about \$500,000 worth of serviceable products at Camp Stuart, Newport News. It includes plumbing and heating supplies, electrical equipment, millwork, motor vehicles, bakery equipment, pumping station, water tanks, iron and steel scrap, etc., all listed in descriptive catalogue now being distributed. The Atlantic Salvage Co., Newport News, Va., owns the materials mentioned, and the M. Fox & Sons Co., 20 South Paca St., Baltimore, will be the auctioneer. Address either of these companies for catalogue or other information.

Machinery for Tire Fabrics and Tire Cords.

To meet strenuous demands from cotton mills operating on tire fabrics and tire cords there has been designed an entirely new ball-bearing twister frame, as the result of co-operative work by a number of men well versed in cotton-spinning and twisting machinery. From this design there was built a twister frame of 132 spindles, 5¼-inch ring, 7-inch gauge, 8-inch traverse, which is now in daily operation at the plant of a large machinery manufacturer near Boston. The frame is equipped throughout with anti-friction bearings of the highest grade, and is using Allen twister spindles. To manufacture these twister frames, as well as to continue designing others, a new corporation was formed at Providence, R. I. Concerning twister rings, it was found that improvements in the quality of steel and workmanship were necessary to meet the demands for increased speed of twisting machinery, and alloy steel proved to be most suitable, because it would take a very high polish, and it possessed wear-resisting qualities. The manufacture of these rings has also been entered into by the Allen Machinery Corp., the new organization formed, with headquarters at 80 Boylston St., Boston, Mass., which now proposes to provide for tire mills a complete line of twisting machinery,

making deliveries this year. Edward G. Lyon is treasurer and general manager, and Arthur G. Patterson, secretary and mechanical engineer.

Sale of Machine Tools, Parts and Metals.

A large sale by order of the United States Ordnance Department will take place July 21 and 22 at the plants of the New England-Westinghouse Company in East Springfield and Chicopee Falls, Mass., beginning at 10 A. M. (daylight saving time), each day, on the premises. The sale includes about 750 machine tools and a large quantity of machine tool parts. Some of the machines are for only one purpose and are limited in their use; others are standard and adaptable to any use. There are also 2,000,000 pounds of steel and brass to be disposed of. Further particulars are given in another column. Samuel T. Freeman & Co., the auctioneers, 1519-1521 Chestnut St., Philadelphia, Pa., will supply catalogues.

To Build Very Large Addition.

The J. G. White Engineering Corporation announce that they have received a commission from the General Chemical Co. to build a very large addition to the National Works of that company at Cleveland, Ohio. One of the most important features of the addition will be a sulphate of alumina plant of large capacity. The engineers have been working on the engineering plans for some months, and it is expected that construction will be started soon.

Unusual Drilling.

The demonstrations that were made in Atlantic City during the Railroad Convention, June 9 to 16, showed that hard and tough alloy steels can be drilled on a real production basis at economical costs. On an American six-foot radial, open-heart chrome nickel steel was drilled at the rate of 20 inches actual penetration per minute with 1-inch, 1½-inch and 1¾-inch Hercules high-speed drills, made by the Whitman & Barnes Manufacturing Co., Akron, Ohio. Drills of other sizes

"Blawnox" Is Its New Name.

Blawnox is the new name conferred upon the town of Hoboken, Pa., the home of the Blaw-Knox Company, manufacturers of steel products. The company was first established in Hoboken about five years ago in a comparatively small shop, at the same time operating another plant at Wheatland, Pa. About two years ago the latter was added to the Hoboken works, the size of which has since been increased by the erection of a large hammer-welding plant, which augmented the already extensive oxy-acetylene and electric welding facilities. About 1000 persons are employed. A petition of the townspeople requesting the United States Senate to change the postoffice name to Blawnox was lately granted.

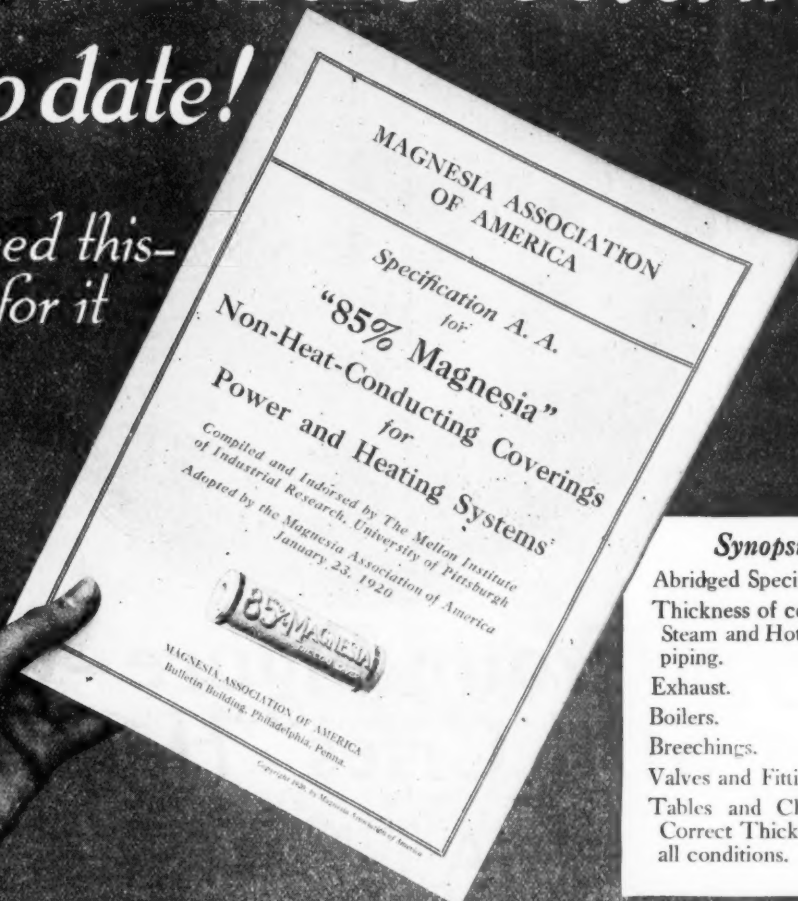
An Efficient Gasoline Paver.

The 1920 Smith paver, gasoline equipped, features a four-cylinder, automobile truck type, heavy-duty Wisconsin motor, the same as is used on many high-grade trucks, and until recently in the Stutz racing models. The motor operates at a slow speed—722 R. P. M. It has an abundance of power on all models. The 10-E is equipped with a 25 horse-power motor, the 14-E with 30 horse-power and the 21-E with 36 horse-power. This is about three times the power of the steam engines on the same models. This surplus of power is necessary to carry the paver over the overloads. Keeping the engine cool is another point that has been taken care of. A radiator three times the size of that used on the ordinary motor truck, and holding six gallons of water, is used. The drive, too, is novel. The pinion on the engine shaft is of rawhide. Both of the larger driving gears are machine cut from semi-steel blanks. The drive is positive, noiseless and efficient. The motor has an Eiseman magneto, an impulse starter and a Stromberg carburetor, fitted with a Wilcox-Bennet air cleaner. The engine is cranked by a regular auto-type crank. The paver is manufactured by the T. L. Smith Company, whose general sales offices are in the Old Colony Bldg., Chicago.

(Continued on page 150.)

Pipe and Boiler Covering- up to date!

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Synopsis

Abridged Specification.
Thickness of covering.
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piping.
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Boilers.
Breechings.
Valves and Fittings.
Tables and Charts of
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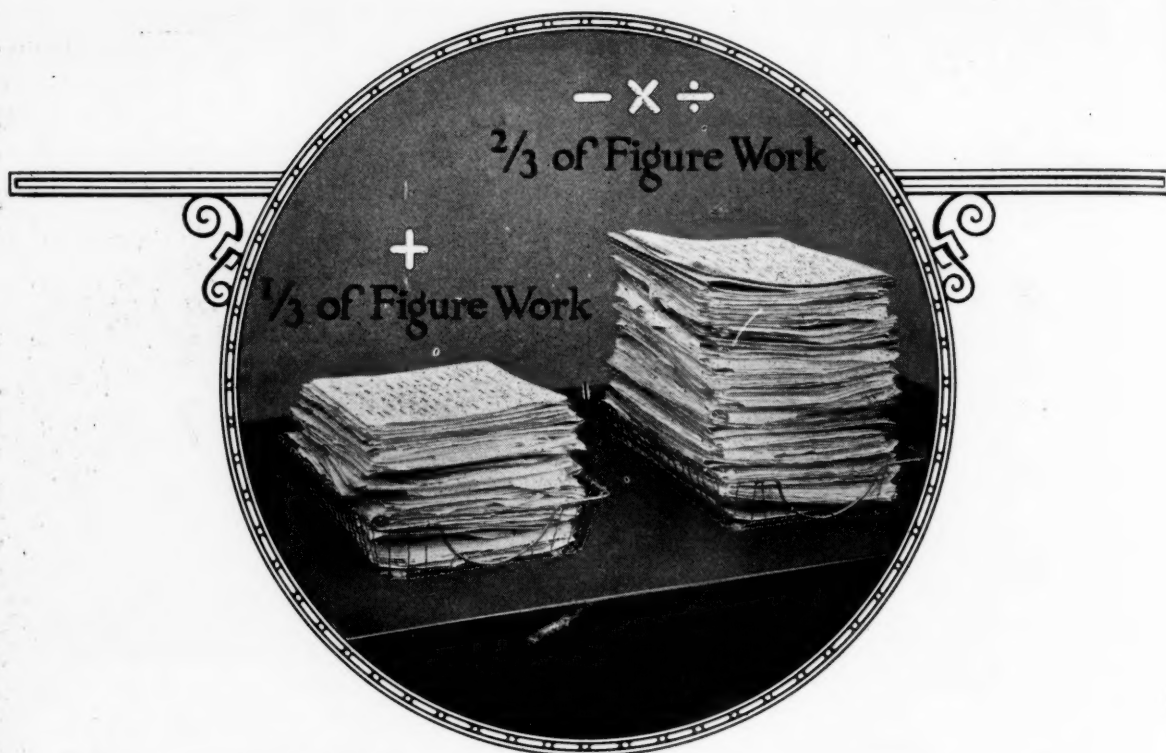
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Modern Plant for Making Couplings.

The Safety First Manufacturing Co., Alexandria, Va., manufacturers of the "Bull Dog Coupling Without a Bolt," are established in their modern and up-to-date plant, which includes a main building 120x80 feet, an annex (which is a well-equipped foundry) 32x120 feet and an office building 14x56 feet. Their product is sold through agents in every city from Maine to Louisiana and as far westward as Minneapolis, and they are establishing agencies in Canada. Besides maintaining a large stock on hand for customers, they are just now filling a single order for 5000 couplings for one of the largest firms in New Jersey, besides 200 for Fort Worth, Tex. To enable manufacturers to try out this coupling they will send one or more on a month's trial. Besides making couplings this plant also turns out high-grade gray iron and semi-steel castings for contract work on special orders. The company is owned by several large manufacturers in the South engaged in other lines of work, two of them being in Richmond, two in Danville and one in Washington.

Economies of Superheated Steam.

Superheaters manufactured by the Locomotive Superheater Co., 30 Church street, New York, for stationary power plants, are discussed in Bulletin T-6 of that company, with especial reference to results accomplished through superheating by means of Elesco superheaters, which were installed last September by the "Nickel Plate" Railroad in the railway shops at Conneaut, O. It is shown that the following economies were accomplished by substituting superheated steam for saturated steam: 26.7 per cent less coal, 20 per cent less water consumed, while efficiency was increased 21.2 per cent. The presentation of these figures is accompanied by details of what the men say who run the plant.

In New Quarters.

Lockwood, Greene & Co., engineers, have issued invitations to visit the new headquarters of their architectural department on the ninth floor of the new National Union Bank Bldg., 209 Washington St., Boston, Mass., where are located Walter W. Cook and associates.

Sales Manager and Engineer.

Elwin H. Rooney of Providence, R. I., for many years connected with the Whitin Machine Works, is now with the Allen Spindle Corporation of Boston, Mass., as sales manager and textile engineer. He is, however, still connected with the Gordon-Hay Company, Inc., Industrial Trust Bldg., Providence, as treasurer and Northern sales director, John Hill of Atlanta, Ga., being vice-president and Southern sales director. In this connection it is important to note that the Allen Spindle Corporation have taken a license from Beirne Gordon, Jr., of Utica, N. Y., to build the Gordon cotton-cleaning machines, this making the Allen Corporation one of five licensed builders.

Turbines Built Quickly—A Small Farm Tractor.

The shipment of two 2800 horse-power Parsons steam turbines by the Midwest Engine Co. of Indianapolis to the Asano Shipbuilding Co. at Yokohama, Japan, is announced as a part of an order for a number of these turbines from the same company. The units are bladed right and left-handed, designed for twin-screw propellers running in port and starboard directions, and develop their maximum horse-power at 3600 R. P. M. These turbines weigh, complete with pipe and gear reduction mechanism, a total of

only 31,780 pounds, permitting a great gain in cargo space. According to Lon R. Smith, the general sales manager, these units going to Japan were built from blueprints, tested and shipped within less than the 90-day period specified by the purchaser. They are similar to the 41 units manufactured by the Midwest Company for the Emergency Fleet Corporation during the war period. In addition to its steam turbine activities, the Midwest Company is in production on a gas engine designed for heavy-duty trucks and tractors, and is also pushing its facilities to take care of the steadily increasing demand for the Midwest Utilitor, a small tractor unit designed to do the work of one horse on small farms, truck gardens and in orchards.

Motion Picture of Belting Manufacture.

The Charles A. Schieren Company, manufacturers of "Duxbak" belting, 30 to 38 Ferry St., New York City, have given a press showing of their new industrial film which displays the processes of belting manufacture. It was exhibited at the Machinery Club. The company will forward one of these films, free of cost, to any responsible concern having facilities to display them to its own organization, and if any such persons are without facilities the company will send a moving-picture operator after booking requests, which will be filled as promptly as possible.

A Useful Novelty.

The Buckeye Iron & Brass Works, Dayton, O., have issued and distributed to their friends and customers a number of white enameled thermometers as souvenirs. They are handsome and useful novelties.

(Continued on page 152.)

Birmingham Trust & Savings Co.

Birmingham, Alabama

Condensed Statement June 30, 1920**ASSETS**

Loans and discounts.....	\$10,146,040.86
Overdrafts.....	3,612.81
Banking house.....	350,000.00
Real estate, furniture and fixtures.....	394,542.38
Liberty Bond account.....	13,050.00
Stocks and bonds.....	829,910.60
Revenue Stamps.....	830.58
War Savings Certificates.....	1,766.45
Due from banks and bankers.....	\$2,973,113.16
Cash in vault.....	\$19,083.50— 3,792,106.66
	\$15,531,950.34

LIABILITIES

Capital stock.....	\$ 500,000.00
Surplus (earned).....	650,000.00
Undivided profits.....	122,379.31
Dividends uncalled for.....	88.00
Liberty Bond subscription account.....	4,765.18
Due to banks and bankers.....	\$ 985,858.45
Individual deposits.....	13,268,859.40— 14,254,717.85
	\$15,531,950.34

OFFICERS

Arthur W. Smith, President.	Benson Cain, Assistant Cashier.
Tom O. Smith, Vice-President.	C. D. Cotten, Assistant Cashier.
W. H. Manly, Cashier.	E. W. Finch, Assistant Cashier.
MacIn F. Smith, Trust Officer.	

The First National Bank of Birmingham, Ala.

Statement June 30th, 1920

RESOURCES

Loans and discounts.....	\$19,170,556.41
Overdrafts.....	4,365.57
U. S. bonds (par).....	1,500,000.00
U. S. Treasury certificates.....	2,767,000.00
Liberty Loan Bonds.....	1,007,614.67
State of Alabama bonds.....	72,000.00
Stock in Federal Reserve Bank.....	90,000.00
Other stocks and bonds.....	1,171,547.52
Banking house.....	250,000.00
Other real estate.....	6,850.00
Customers' liability account letters of credit.....	479,660.33
Interest earned not collected.....	61,454.00

CASH

In vault.....	\$ 926,922.58
With banks.....	3,771,541.83
With U. S. Treasurer.....	70,000.00
With Federal Reserve Bank.....	3,010,722.17— 7,779,186.58
	\$34,360,235.68

LIABILITIES

Capital stock.....	\$ 1,500,000.00
Surplus and profits.....	1,982,712.88
Reserved for taxes.....	49,564.30
Circulation.....	1,307,300.00
Dividends unpaid.....	90,000.00
Bills payable secured by U. S. certificates of indebtedness.....	750,000.00
Reserved for interest.....	140,500.00
Customers' letters of credit.....	479,660.33
Interest collected not earned.....	137,945.31

DEPOSITS

Individual.....	\$25,181,398.82
Bank.....	2,327,221.60
United States.....	213,934.49
Federal Reserve Bank, Atlanta, Fiscal Agt.....	200,000.00— 27,922,552.91
	\$34,360,235.68



Capital and Surplus
\$4,000,000

Total Resources
\$38,000,000

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Trade Literature.

Light Railways.

Catalog 200 of the Light Railway Equipment Co., Philadelphia, Pa., is a finely prepared and arranged book of 60 large pages with superior illustrations accompanied by ample descriptions. The company are specialists on light railway transportation, permanent and portable railways, and railway material necessary to track construction and equipment, including steel industrial cars, steam, gasoline and electric locomotives. This book is especially a new track catalog and will be found very complete concerning that branch of the company's activities.

Dump Trucks in Road Work.

Pages 8 and 9 of the "Diamond T Accelerator" for May-June presents a double-page picture of a fleet of Diamond T dump trucks owned by the Tennalark Transportation Co., which are being used between Memphis and Millington, Tenn., in excavating and fill work on a new road grade through very difficult bottom land and along a levee. There are also two pictures related to the main illustration. The other information in the book will likewise be read with interest by contractors and others.

Shoveling by Machine.

A new bulletin has been issued concerning the "Shuveloder," manufactured by the Lake Superior Loader Co., Duluth, Minn. In addition to a description of the construction and operation of this machine, the bulletin presents data of a few performance records showing the comparative cost of hand shoveling and machine shoveling. The pictures show just how the machine works in "mechanical mucking."

Hydraulic Machinery.

Pump Data No. 29 of the Aldrich Pump Co., Allentown, Pa., manufacturers of hydraulic machinery, bears on its first page a picture of an Aldrich electro-hydraulic plant consisting of four 4½x12-inch Aldrich vertical triplex electric pumps, each with a capacity of 150 gallons per minute, and other machinery. They are fitted with a mechanical unloading device and accumulator control of the same manufacture. The other 23 pages of the bulletin contain descriptions, pictures and tabular data concerning the various Aldrich products.

Facts About Housing Plans.

An admirable and timely booklet, "Housing Plans for Cities," is published by the Southern Pine Association, New Orleans, which is distributing it to boards of trade, chambers of commerce, building and loan associations, architects, engineers, corporations of various kinds (including banks), to whom the information it conveys will be welcome. The book includes facts obtained about housing plans from various cities and industrial corporations whose needs demanded that they go in for the erection of dwellings in a wholesale manner. Plans for financing such operations are also described, among these being the plan of the former financial adviser of the United States Housing Corporation. The book will prove useful to everyone interested in the subject of providing enough homes for the people.

About Tumbling Mills.

A new tumbling mill catalogue, No. 153, of the Whiting Foundry Equipment Co., Harvey, Ill., has been issued and will be mailed free on request. Three standard types of these tumbling mills, which are used in foundries, have been developed. Two types

are for use with exhaust, one of them having a round, the other a square steel plate barrel. The third type has a round cast-iron stave barrel and is not used with exhaust. The book is finely and fully illustrated.

Financial News

New Financial Corporations.

Ark., Dierks.—Citizens' Bank, capital \$25,000, surplus \$2,500, began business July 7. R. H. Kolb, Prest.; R. W. Westbrook, V.-P.; J. M. Power, Cash.

Fla., Haines City.—Growers' Commercial Bank, capital stock \$30,000, is chartered; Thos. H. Atkin, Prest.; J. H. Yale and M. Sample, V.-Ps.; C. G. Oats, Cash.

Ga., Waycross.—A trust company with \$1,000,000 authorized capital is being organized by business men of Waycross. Chamber of Commerce may give information.

Ky., Cadiz.—Cadiz Bank & Trust Co., it is announced, will consolidate with the proposed new People's Bank and increase capital stock to \$60,000.

Miss., Carthage.—Carthage Bank chartered; capital \$50,000; surplus \$5,000; J. L. McMillon, Prest.; N. F. Wallace, V.-P.

Mo., Linn Creek.—Camden County National Bank, conversion of Camden County Bank, capital \$25,000, has applied for charter; J. M. Vincent and others.

Mo., St. Louis.—A new banking institution with \$150,000 capital and which will operate the Mortgage Loan & Trust Co. and the Savings and Loan Trust Co. will open within the next two months. Samuel Nicolls, treas. of the Standard Rails Co., will be pres. of the two companies, and R. L. Gurney, mangr. of the savings dept. of the American Trust Co., will be secy. and treas.

N. C., Pinetown.—Bank of Pinetown, capital authorized \$100,000, paid in \$5,000, is inceptd. A. M. Dumay, Stephen C. Bragaw, C. V. Brown of Washington, N. C., and others.

S. C., Bennettsville.—Workers' Enterprise Bank organized; E. J. Sawyer, Prest.; J. W. Thomas and G. W. Pegues, V.-P.; J. B. Taylor, Cash.

S. C., Gaffney.—Carolina Bank & Trust Co., capital stock \$150,000, is being organized. T. T. Griffith, prest.; J. N. Lipscomb and H. P. Griffith, V.-Ps.; P. D. Mazzyck, Cash.

Tex., Beckville.—First National Bank chartered; capital \$25,000; surplus \$2,500; J. M. Moore, Prest.; A. Roberts, V.-P.; Jas. E. Lancey, Cash.

Tex., Chester.—Chester State Bank, capital stock \$10,000, is chartered. Address Chamber of Commerce.

Tex., Georgetown.—Guaranty State Bank, capital stock \$50,000, is chartered. Address Chamber of Commerce.

Tex., Mathis.—First National Bank, capital \$25,000, has applied for charter; M. L. Paden and others.

Tex., Naples.—First State Bank, capital stock \$30,000, is chartered. Address Chamber of Commerce.

Tex., Utopia.—First State Bank, capital stock \$20,000, is chartered. Address Chamber of Commerce.

Tex., Wichita Falls.—Security Natl. Bank, capital \$400,000, surplus \$100,000, has begun business. J. I. Staley, Prest.; N. M. Clifford, Cash.

Va., Toms Brook.—Toms Brook Bank, capital \$50,000, is chartered. S. E. Miley, prest.; J. L. Foller, secy.

New Securities.

Ala., Bessemer.—(School).—No bids received for \$100,000 of 20-year bonds offered July 6. Address B. C. Jones, Mayor.

Ark., Walnut Ridge.—(School).—Sold to the Bank of Portia at par \$8000 of 6 per cent \$100 denomination 2-17 year Portia Special School Dist., bonds dated April 1, voted March 1 and offered June 24.

Fla., Clearwater.—(Park).—Bids will be received until 8 P. M. July 23 for \$30,000 of 6 per cent 30-year bonds. Address J. R. Thomas, City Clerk. For particulars see *Proposals Department*.

Fla., Millville.—(Improvement).—The \$30,000 of 6 per cent bonds offered on June 23 were not sold, it is reported. Address J. M. Sapp, Atty., Panama City.

Fla., Tampa.—(School).—Sold to Citizen-American Bank & Trust Co. at par and accrued interest, \$60,000 of 6 per cent \$1000 denomination 20-year serial bonds of School Dist. 28.

Fla., West Palm Beach.—(School).—No bids were received for the \$40,000 of 6 per cent \$500 denomination bonds of Special Tax School Dist. No. 4, Palm Beach County, voted May 18 and offered June 26. Address W. E. Keen, Supt.

Ga., Decatur.—(School, Water-works).—Voted June 30, \$100,000 school and \$50,000 water-works bonds. Address Chas. D. McKinney, Chrmn. Citizens' Committee.

La., Benton.—(School).—Bids received until noon July 8 for \$100,000 of 5 per cent \$1000 denomination serial 20-year Bossler Parish School Dist. No. 9 bonds, dated Feb. 1, 1920. Address W. A. Forston, Secy. Parish School Board.

Md., Annapolis.—(State Certificates).—Bids will be received until noon Aug. 10 for \$1,500,000 4½ per cent \$1000 denomination road certificates, dated Aug. 15, 1920. Address John M. Dennis, State Treasurer.

Md., Baltimore.—(General Improvement, Water, Port).—Mayor W. F. Broening has approved the ordinances providing for a vote at the November election on the new city loans thus: \$26,000,000 general improvements, \$15,000,000 water, \$10,000,000 port.

Md., Cumberland.—(Road).—Allegany County Commrs. sold \$95,000 of 5 per cent bonds, as follows: First National Bank, Cumberland, \$25,000; Second National, Cumberland, \$14,000; First National, Frostburg, \$7,000; First National, Midland, \$5,000; First National, Lonaconing, \$5,000; Lonaconing Savings, \$5,000; First National, Barton, \$7,000; Citizens' National, Westernport, \$12,000; First National, Piedmont, W. Va., \$6,000, and Davis National, Piedmont, \$6,000.

Md., Frederick.—(Park).—At the election July 6 the \$50,000 of park bonds failed to carry. Edward S. Delaplaine is City Atty.

Md., Rockville.—(School, Road).—Only one bid was received July 6 for two issues of bonds (aggregating \$124,000), at \$109,221.91, and it was rejected. There were altogether \$206,000 of 5 per cent \$500 and \$1000 denomination serial bonds, dated Aug. 1, offered. Address Berry E. Clark, Clk. Board County Commrs.

Miss., Baldwin.—(Street, Water, Light).—No satisfactory bids were received for the \$26,000 of not over 6 per cent serial 1920-1945 bonds voted June 8 and offered on July 6, and they are still on the market. Address W. A. Stocks, Mayor.

Miss., Corinth.—(School, Fire, Street Machinery).—No bids were received for the \$30,000 of bonds offered on July 1. Address M. J. Sharp, Mayor.

Miss., Durant.—(Light Plant).—Bids will be received at any time for \$8000 of 6 per cent

\$500 denomination bonds voted May 1, 1920, and dated July 6, 1920. Address T. L. West, Mayor.

Miss., Gulfport—(Road).—Voted July 6 \$100,000 of Harrison County bonds. Address County Comms.

Miss., Meridian—(School).—Voted July 6 \$6000 Harper-Russell Consolidated School Dist. and \$15,000 Bonita School Dist. bonds. Address County Supvrs.

Miss., Meridian—(Incinerator, Bridge, Street, Paving).—Bids will be received until 10 A. M. July 20 for the following bonds dated May 1 and voted June 29: \$15,000 incinerator, \$60,000 bridge, \$30,000 street, \$125,000 paving. Address W. H. White, City Clerk. *For particulars see Proposals Department.*

Miss., Shubuta—(Light Plant).—Election July 13 on \$12,000 of bonds. Address The Mayor.

Mo., Marshall—(Water and Light).—Sold to the Wm. R. Compton Co. of St. Louis at par (commission paid, 2% per cent), \$90,000 of 6 per cent \$500 denomination 5-20-year bonds voted May 27.

Mo., Poplar Bluff—(Hospital).—Election Nov. 2 on \$100,000 of Butler County bonds. Address County Comms.

N. C., Belmont—(Street).—\$50,000 of 20-year city bonds have been authorized. Address The Mayor.

N. C., Charlotte—(Refunding).—The \$75,000 of 6 per cent 3-year \$1000 denomination bonds dated July 1 and offered June 9 were sold at par and accrued interest as follows: \$50,000 to Alex Sands, Jr., of New York, and \$25,000 to Charles E. Lambeth, of Charlotte.

N. C., Charlotte—(School).—Special dispatch to the Manufacturers Record says: "Charlotte school bond election (July 6) carried by large majority. Amount, \$750,000. H. P. Harding, Supt."

N. C., Greensboro—(Passenger Station).—An act authorizing the issue of \$1,300,000 of city bonds will be introduced at the extra session of the General Assembly. Address City Attorney Chas. A. Hines.

N. C., Lexington—(Street, School).—Bids will be received until 2 P. M. July 20 for the following 6 per cent bonds: \$250,000 7½-year average street and \$75,000 16½-year average school bonds. Address J. V. Moffitt, Town Clerk.

N. C., Newbern—(Road).—Sold to C. W. Bray Bros. of Greensboro, N. C., \$100,000 of Craven County bonds.

N. C., Salisbury—(Street).—\$90,000 of bonds have been sold at par plus accrued interest. Address W. T. Rainey, City Clerk.

N. C., Wilmington—(Drainage).—Bids will be received until noon Aug. 10 for \$170,000 of 6 per cent 9-year bonds of Drainage Dist. No. 4. Pender County, dated Oct. 1, 1920. Address R. G. Grady, Chrmn. Board Drainage Comms. *For particulars see Proposals Department.*

Okla., Mountain View—(Electric Light).—Election July 6 on \$30,000 of bonds. Address The Mayor.

Okla., Poteau—(Park).—\$25,000 of bonds were voted June 15. Address The Mayor.

S. C., Union—(Water-works, Sewer, Lighting).—Bids will be received until noon July 15 for the following 6 per cent bonds: \$70,000 serial 25-year water-works, \$60,000 serial 20-year sewer and \$30,000 serial 25-year lighting bonds. Address W. D. Arthur, City Clerk and Treasurer. *For particulars see Proposals Department.*

S. C., York—(Road).—\$50,000 of Broad River Township, York County, bonds have been voted. Address County Comms.

Tenn., Columbia—(Refunding).—Contemplated to vote on \$60,000 of bonds. Address The Mayor.

Tenn., Bristol—(Street, Improvement).—The sale of \$80,000 1-20-year street and \$40,000 1-5-year improvement bonds offered on July 6 was postponed without date. Address W. K. Carson, City Clk. and Recorder.

Tenn., Dandridge—(Road).—W. C. Lyle, Chrmn. Finance Committee, receives bids until July 26 for \$185,000 of 6 per cent Jefferson County bonds.

Tenn., Jackson—(Improvement, School, Sewer).—Election Aug. 9 on \$151,000 of 6 per cent \$1000 denomination 10-year optional bonds, dated Aug. 1, 1920. Address J. D. Johnson, Mayor.

Tenn., Jonesboro—(Street, Refunding).—At the election July 8 \$15,000 of 5 per cent 5-25-year \$500 denomination bonds failed to carry. Address W. L. Hoss, Mayor.

Tenn., Pulaski—(Road).—Sold to the Union Bank of Pulaski at par and accrued interest \$350,000 of 6 per cent 35-year Giles County bonds dated July 1 and offered without success on May 22.

Tex., Bay City—(School).—\$24,000 of Matagorda Independent School Dist., Matagorda County bonds have been sold.

Tex., Beaumont—(Drainage).—Bids received, it is reported, until 10 A. M. July 22 for \$1,000,000 of 5 per cent drainage bonds of Jefferson County. Address W. M. Carroll, County Judge.

Tex., Beaumont—(Drainage).—\$1,000,000 of 5 per cent serial Jefferson County Drainage Dist. No. 6 bonds have been registered with the State Comptroller, it is reported. Address County Comms.

Tex., Center—(Road).—Bids will be received until 10 A. M. July 17 for the following bonds of Shelby County: \$80,000 Road Dist. No. 1, \$100,000 Road Dist. No. 2, \$350,000 Road Dist. No. 3, \$70,000 Road Dist. No. 5 and \$100,000 Road Dist. No. 6. Address County Comms.

Tex., Cooper—(Road).—\$500,000 of 5 per cent serial Delta County bonds have been registered with the State Comptroller, it is reported. Address County Comms.

Tex., Edinburg—(Road).—Election July 25 on \$2,000,000 of Hidalgo County bonds. Address County Comms.

Tex., Falfurrias—(Road).—\$100,000 of 5½ per cent Brook County bonds have been registered with the State Comptroller, it is reported. Address County Comms.

Tex., Greenville—(Street).—Voted July 3 \$450,000 of bonds. Address The Mayor.

Tex., Highland Park (P. O. Dallas)—(Street).—Sold to the Tension National Bank of Dallas at par and accrued interest \$110,000 of 5 per cent \$1000 denomination serial bonds, dated Oct. 4, 1919.

Tex., Johnson City—(Road).—Bids will be received any time for the following 5½ per cent \$1000 denomination 10-30-year optional Blanco County bonds voted Mch. 22, 1919: \$35,000 Road Dist. No. 1 and \$40,000 Road Dist. No. 2. Address Wm. Martiny.

Tex., Ranger—(Fire Station).—Sold recently to J. L. Arlitt, of Austin, Tex., \$40,000 of 5½ per cent serial 1-20 year bonds.

Tex., Robstown—(School).—Date of sale has not yet been determined for the \$30,000 of 5½ per cent \$100 denomination 5-40 year optional bonds dated May 15 and voted May 8, 1920. Address W. D. Doughty, Prest. School Board.

Tex., Stephenville—(School).—\$100,000 of bonds were recently voted. Address School Board.

Tex., Weathersford—(Road).—All bids were rejected, it is reported, for the \$400,000 of 5 per cent \$1000 denomination 30-year serial Parker County bonds, dated June 10, 1919, and offered June 16, 1920. Address County Comms.

Va., Bayview—(School).—Bids will be received until noon August 1 for all or any part of \$75,000 of \$500 denomination 5-30-year Capeville School Dist. No. 3, Northampton County, bonds, dated Aug. 15, 1920. Address John W. Nottingham, Clerk School Board.

Va., Culpeper—(Water).—Bids received until July 15 for \$30,000 of 6 per cent 10-30-year optional \$500 denomination bonds, dated Aug. 1, 1920. Address J. William Swan, Chrmn. Finance Com.

Va., Onancock—(School).—Voted July 6, \$35,000 bonds. Address Harris Hart, Supt. of Public Instruction.

Va., Suffolk—(Refunding).—\$30,000 of bonds have been authorized. Address The Mayor.

W. Va., Buckhannon—(Street).—\$50,000 of city bonds have been approved by the Attorney-General. Address The Mayor.

W. Va., Burch—(School).—\$100,000 of bonds have been voted. Address School Board.

W. Va., Charleston—(School).—Election July 15 on \$100,000 of 11½ per cent 5-20-year \$1000 denomination Union Dist., Kanawha County, bonds, dated Sept. 1, 1920. Address J. A. Shaver, Prest. Board of Education.

W. Va., Huntington—(Road).—No bids were received for the \$1,000,000 of 5 per cent \$1000 denomination 30-year Cabell County bonds, dated July 1, 1920; voted May 27 and offered July 7. Address D. I. Smith, Prest. County Court.

W. Va., Lewisburg—(Road).—Bids will be received until July 24 for \$41,500 of 6 per cent Frankford Magisterial Road Dist., Greenbrier County, bonds previously offered on July 6. Address Paul C. Hogsett, County Clk.

W. Va., Lewisburg—(Road).—The \$41,500 of 6 per cent Frankford Magisterial Road Dist., Greenbrier County, bonds which were to have been offered on July 6 were withdrawn temporarily. Address Paul C. Hogsett, County Clk.

W. Va., Worthington—(Improvement).—\$3500 of bonds voted June 1 have been approved by the Atty.-Genl. Address The Mayor.

Financial Notes.

Continental State Bank of Beckville, Tex., has increased capital from \$20,000 to \$30,000.

First State Bank of De Leon, Tex., has increased capital from \$35,000 to \$70,000.

Citizens' State Bank, El Campo, Tex., has increased capital stock from \$62,500 to \$100,000.

First National Bank of Wetumka, Okla., has increased capital from \$30,000 to \$40,000.

First National Bank of Cilo, S. C., has increased capital from \$25,000 to \$50,000.

First National Bank of Narrows, Va., has increased capital from \$25,000 to \$50,000.

First National Bank of Wellston, Mo., has increased capital from \$50,000 to \$100,000.

Mount Holly Bank, Mount Holly, N. C., increased capital from \$10,000 to \$30,000.

Farmers' National Bank of Monticello, Ga., has increased capital from \$30,000 to \$50,000.

First National Bank of Panama City, Fla., has increased capital from \$125,000 to \$250,000.

First National Bank of Leesburg, Fla., proposes to increase capital stock from \$25,000 to \$100,000.

Security National Bank of Oklahoma City, Okla., has increased capital from \$300,000 to \$500,000.

Bank of Blacksburg, Blacksburg, S. C., will increase capital stock from \$50,000 to \$100,000. Stockholders meet August 3.

Sedalia Savings and Loan Association, Sedalia, Mo., increased capital stock from \$250,000 to \$500,000.

PROPOSALS

BOND ISSUES
BUILDINGS
PAVING
GOOD ROADS

Bids close July 22, 1920.

TREASURY DEPARTMENT, Supervising Architect's Office, Washington, D. C., June 28, 1920. Sealed proposals will be opened in this office at 3 P. M. July 22, 1920, for the installation of a Sewage Ejector, etc., at the United States Postoffice and Courthouse at Del Rio, Texas, in accordance with the drawing and specification, copies of which may be had at this office or at the office of the Custodian at Del Rio, Texas, in the discretion of the Supervising Architect. JAS. A. WETMORE, Acting Supervising Architect.

Bids close July 30, 1920.

PROPOSALS FOR STEEL, IRON OR Steel Roofing, Copper, Pig-Iron, Pig Tin, Pig Lead, Iron or Steel Pipe, Chain, Shackles, Copper Wire, Steel Rope, Mule Shoes, Horse Shoes, Ring Bolts, Steel or Iron Nuts, Oil-burning Ranges, Blueprint Paper-cutting and Trimming Tables, Blowers, Platform Scales, Cargo Trucks, Fire Extinguishers, Water Buckets, Barrel Bolts, Hinges, Locks, Turnbuckles, Water Coolers, Pipe Fittings, Valves, Steel Desks, Wooden Office Chairs, Tackle and Chain Blocks, Pipe Vises, Hand Saws, Reamers, Files, Post-hole Diggers, Wrenches, Bronze Strips, Bronze Letters, Bronze Grill Work, Wire Netting, Lanterns, Cuspidors, Handles, Rubber Tubing, Rubber Matting, Rubber Hose and Rubber Tires. Sealed proposals will be received at the office of the General Purchasing Officer, the Panama Canal, Washington, D. C., until 10:30 o'clock A. M. July 30, 1920, at which time they will be opened in public, for furnishing the above-mentioned articles. Blanks and information relating to this Circular (1386) may be obtained from this office or the offices of the Assistant Purchasing Agent, 24 State Street, New York City; 606 Common Street, New Orleans, La., and Fort Mason, San Francisco, Cal.; also from the United States Engineer Offices in the principal cities throughout the United States. A. L. FLINT, General Purchasing Officer.

Bids close August 2, 1920.

PROPOSALS FOR BROOMS, BRUSHES, Leather Belting, Lace Leather, Harness Leather, Chamolais Skins, Fire Bricks, Fire Clay, Soap, Ticking, Sheetting, Canvas, Chalkline, Duck, Oilcloth, Towels, Toweling, Table Cloths, Holystones, Sandpaper, Emery Cloth, Wooden Chair Seats, Gasoline Torches, Copper Tacks, Horsehair, Glass, Cork Board, Sheet Packing, Solder, Pipe Covering, Table Forks, Chinaware, Furnace Cement, Bone Black, Calcium Carbide, Turpentine Substitute, Typewriter Ribbons, Paper, Bristol Board, Paper Napkins, Excelsior and Luncheon. Sealed proposals will be received at the office of the General Purchasing Officer, The Panama Canal, Washington, D. C., until 10:30 o'clock A. M. August 2, 1920, at which time they will be opened in public, for furnishing the above-mentioned articles. Blanks and information relating to this circular (1387) may be obtained from this office or the offices of the Assistant Purchasing Agents, 24 State Street, New York City; 606 Common Street, New Orleans, La., and Fort Mason, San Francisco, Cal.; also from the United States Engineer Offices in the principal cities throughout the United States. A. L. FLINT, General Purchasing Officer.

Bids close July 22, 1920.

PROPOSALS FOR BRONZE ROPE, WIRE Netting, Steel Tapes, Metallic Tapes, Thermometers, Snatch Blocks, Tackle Blocks, Fire Extinguishers, Bronze Bars, Bolts, Transom Catches, Drawer Handles, Hasps, Shower Heads, Hinges, Knobs and Handles, Night Latches, Locks and Drawer Pulls. Sealed proposals will be received at the office of the General Purchasing Officer, the Panama Canal, Washington, D. C., until 10:30 o'clock A. M. July 22, 1920, at which time they will be opened in public, for furnishing the above-mentioned articles. Blanks and information relating to this Circular (1385) may be obtained from this office or the offices of the Assistant Purchasing Agents, 24 State Street, New York City; 606 Common Street, New Orleans, La., and Fort Mason, San Francisco, Cal.; also from the United States Engineer Offices in the principal cities throughout the United States. A. L. FLINT, General Purchasing Officer.

Bids close July 24, 1920.

\$100,000 5% Road Bonds

The County Highway Commission for Oconee County, South Carolina, having been created and empowered by an Act of the 1920 session of the General Assembly to issue and sell serial coupon bonds bearing interest at 5 per cent., payable semi-annually, to an amount not exceeding \$400,000 in such amounts and at such times as the Commission deems advisable, have agreed, therefore, to receive sealed bids up to 11 o'clock A. M. on the 24th day of July, 1920, for the purpose of selling \$100,000 coupon bonds in denominations of \$1000 each, bearing date July 1, 1920, and due and payable in series or annual installments beginning July 1, 1922; the first installment being the sum of \$2000, and a like amount falling due annually thereafter, until twelve thousand dollars are consumed; then \$88,000 thereof will fall due in annual installments of \$4000 each. The whole amount of these bonds will bear interest at 5 per cent. per annum, payable semi-annually on July 1 and January 1 of each year during the life of same.

Approving opinion as to the legality of the bonds will be furnished free of charge to the purchaser by Attorneys Storey, Thorndike, Palmer & Dodge of Boston.

The purchaser of the bonds has the right to have them registered on the books of the County Treasurer. Ample and unlimited tax levy is provided in the law for taking care of the interest and installments of principal. The only other bonded indebtedness owing by the county is the sum of thirty thousand dollars. The assessed valuation of all taxable property in the county is \$6,106,900.

The bonds, including coupons, will be made payable either within or without the State of South Carolina, as desired by the purchaser, and will be printed and delivered soon after bids are received. The bidder must file a certified check, payable to M. R. McDonald, Secretary of the Commission, with the bid as evidence of good faith of bidder, to the amount of 2 per cent. of the bid. The Commission reserves the right to reject any and all bids. Bids should be filed with the Secretary.

Dated June 19, 1920.

W. L. VERNER,
Chairman.
M. R. McDONALD,
Secretary.

Bids close July 26, 1920.

\$15,000 4½% Road Bonds

Christiansburg, Va. Sealed Bids will be received by the undersigned Clerk of the Board of Supervisors of Montgomery County, Virginia, at Christiansburg, Virginia, until noon July 26, 1920, for \$15,000 worth of Montgomery County bonds for the improvement of roads in Blacksburg District. Bonds will be in denominations of \$500 each, bearing 4½ per cent. interest, payable semi-annually, and to mature thirty years after date, with option to redeem after twenty years, and will be exempt from taxation by any county, district or municipality in Virginia. The Board of Supervisors reserve the right to reject any or all bids. For further information apply to undersigned, or R. I. Roop, Commonwealth's Attorney.

ARCHER P. JOHNSON,
Clerk Board of Supervisors,
Montgomery County, Va.

Bids close August 2, 1920.

\$580,000 5% Highway Improvement Bonds

OF ANDERSON COUNTY, S. C.

Anderson, S. C. The Highway Commission of Anderson County, S. C., will offer for sale on August 2, 1920, at 2 o'clock P. M., at the offices of the Commission in Anderson, S. C., \$580,000 Highway Improvement Bonds of said county. These are coupon bonds of \$1000 denomination, maturing serially from January 1, 1922, to January 1, 1951, bearing interest from July 1, 1919 (the date of issue), at 5 per cent. per annum, payable semi-annually January 1 and July 1, principal and interest payable at Hanover National Bank, New York. Twelve bonds mature each January 1 from 1922 to 1926; fourteen bonds mature each

year for next five years thereafter; eighteen bonds mature each year for next five years thereafter; twenty bonds mature January 1, 1937, and twenty each year for the next four years; twenty-four bonds mature each year for next five years thereafter; twenty-eight bonds mature each January 1, 1947 to 1951, inclusive.

These bonds are two-fifths of an issue of \$1,450,000 bonds of said county, issued under the authority of an Act of the Legislature of 1919. The other three-fifths of the said issue (i. e., three-fifths of each maturity) has been sold. There are no other bonds outstanding against Anderson County.

Sealed bids will be received by the Commission for any part or all of said amount of bonds. Right reserved to reject any and all bids if bids are not satisfactory. Certified check, payable to W. C. Austin, Secretary, for 2 per cent. of the bid, must accompany each bid to guarantee payment for the bonds within 10 days after the bonds are ready for delivery if the bid is accepted.

The legality of the issue has been approved by Storey, Thorndike, Palmer & Dodge Attorneys, Boston, Mass., and purchaser will be furnished with opinion. The bonds have been engraved by National Bank Note Co., and are in hand ready for signature and delivery.

The county has a population of about 80,000. The estimated actual value of property of the county is \$100,000,000.

For more detailed statement of the resources of the county and authority for the issue apply to the undersigned.

J. M. KILGUS, Chairman;
W. C. AUSTIN, Secretary,
Highway Commission of Anderson
County, S. C.

Bids close July 26, 1920.

\$250,000 6% Road and Bridge Bonds

Bartow, Fla. Notice is hereby given that on the 26th day of July, A. D. 1920, not later than the hour of twelve o'clock noon upon said date, the Board of County Commissioners will receive bids for the purchase of bonds of the Special Road and Bridge District Number Four, in and for Polk County, Florida, at the Clerk's office at Bartow, in said county and State; said bonds aggregating the sum of \$250,000, dated January 1, 1920, and to bear interest at six per cent. per annum, payable semi-annually on the 1st day of January and July, both principal and interest being payable in the City of Bartow, Polk County, Florida, or in the City of New York, at the option of the purchaser; bonds to be of the denomination of \$1000 each, numbered consecutively from one to two hundred and fifty, both inclusive; bonds numbered one to ten, both inclusive, maturing January 1, 1925; eleven to fifteen, both inclusive, January 1, 1926; sixteen to twenty-one, both inclusive, 1927; twenty-two to twenty-eight, both inclusive, 1928; twenty-nine to thirty-five, both inclusive, 1929, and ten bonds each year thereafter to 1937; bonds Nos. 236 to 250, both inclusive, January 1, 1950. Certified check for \$5000 must accompany each bid. The Commissioners reserving the right to reject any and all bids if the Commissioners shall deem it necessary for the said Special Road and Bridge District. No bids for less than ninety-five cents on the dollar will be received or considered by the said Board of County Commissioners.

This 21st day of June, A. D. 1920.

J. A. JOHNSON,
Clerk Board County Commissioners.

Bids close July 23, 1920.

\$30,000 6% City Park Bonds

Clearwater, Fla. Sealed proposals will be received by the City Council of the City of Clearwater, Fla., up to 8 P. M. July 23, 1920, for the purchase of \$30,000 City Park Bonds, 30 years, 6 per cent., semi-annual interest.

Principal and interest payable at the Bank of Clearwater, Clearwater, Fla.

A certified check for \$1500 must accompany each bid.

The Council reserves the right to reject any or all bids.

J. R. THOMAS,
City Clerk.

Bids close August 3, 1920.

**Sale of \$200,000 Talbot County, Maryland
General Road Construction Bonds**

DENOMINATION, \$500 EACH.

Sealed proposals will be received by the County Commissioners of Talbot County at their office in Easton, Md., until Tuesday, August 3, 1920, at 12 o'clock noon, for the purchase of \$200,000 par value of the General Road Construction Bonds, dated August 15, 1920, interest 5½ per cent., payable semi-annually on the 15th days of August and February, coupons.

Bonds mature as follows:

Series A, 24 bonds, \$12,000, mature August 15, 1923.
Series B, 24 bonds, \$12,000, mature August 15, 1924.
Series C, 26 bonds, \$13,000, mature August 15, 1925.
Series D, 26 bonds, \$13,000, mature August 15, 1926.
Series E, 28 bonds, \$14,000, mature August 15, 1927.
Series F, 30 bonds, \$15,000, mature August 15, 1928.
Series G, 30 bonds, \$15,000, mature August 15, 1929.
Series H, 32 bonds, \$16,000, mature August 15, 1930.
Series I, 32 bonds, \$16,000, mature August 15, 1931.
Series J, 34 bonds, \$17,000, mature August 15, 1932.
Series K, 36 bonds, \$18,000, mature August 15, 1933.
Series L, 38 bonds, \$19,000, mature August 15, 1934.
Series M, 40 bonds, \$20,000, mature August 15, 1935.

Authority: Acts of the General Assembly of Maryland, 1920, Chapter 430. Exempt from State, county and municipal taxes. Deposit: A certified check for \$500. Bonded debt: \$89,500. Assessed value: \$13,868,000. Actual value: \$20,000,000. Tax rate, 155 cents on the \$100.

By order of the County Commissioners of Talbot County.

HENRY P. TURNER,
Clerk and Treasurer.

Bids close July 20, 1920.

\$290,000 Improvement Bonds

Meridian, Miss.

Notice is hereby given that the Council of the City of Meridian will receive sealed bids up to the hour of 10 o'clock A. M. of Tuesday, July 20, 1920, for the sale of the following bonds of the City of Meridian, Mississippi, as authorized by an election held on the 29th day of June, 1920, to wit:

\$15,000 Incinerator Bonds.
\$60,000 Concrete Bridge Bonds.
\$90,000 Street-Improvement Bonds.
\$125,000 24th Ave. Paving Bonds.

All of said bonds to be dated the 1st day of May, 1920, and the interest on said bonds to be paid semi-annually at the office of the City Clerk and Treasurer, Meridian, Mississippi. Said bonds are to be sold at par, plus accrued interest from the date of said bonds to the date of delivery, at the lowest rate of interest which may be bid for said bonds; in other words, the competition among the bidders will be on the rate of interest said bonds shall bear, and no premium bids for said bonds will be considered.

Bids are requested for each issue of bonds separately and also for all of the issues as a whole. Bids are also requested for said bonds on the basis of the purchaser paying for the lithographing of the bonds and the attorney's fee for proving the legality thereof, and also on the basis of the city paying for the lithographing of the bonds and attorney's fee.

Each bid to be accompanied by a certified check on some solvent bank to the amount of 2 per cent. of each bond issue bid for, which certified check shall be payable to the City of Meridian as a guarantee that the bidder will take and pay for the bonds if the same should be awarded him. The Council reserves the right to accept or reject any and all bids submitted.

No bids on said bonds will be considered at a greater rate of interest than 6 per cent. per annum. Financial statement will be furnished upon request, and a complete transcript on said bond issues will be furnished to the successful bidder.

W. H. WHITE,
City Clerk and Treasurer.

Bids close August 10, 1920.

\$170,000 6% Drainage Bonds

Wilmington, N. C.

The Board of Drainage Commissioners of Pender County, North Carolina, Drainage District No. 4, invite sealed bids for One Hundred and Seventy Thousand (\$170,000)

Dollars Serial Drainage Bonds of said District, bearing 6 per cent. interest, payable semi-annually; principal payable Seventeen Thousand (\$17,000) Dollars three years from date of issue and an equal amount each year thereafter for nine additional years, bonds to be dated October 1, 1920. Bids must be accompanied by certified check of One Thousand (\$1,000) Dollars, and should be filed with C. D. Weeks, Attorney, Wilmington, N. C., or with R. G. Grady, Chairman, Wilmington, N. C., by 12 o'clock noon August 10, 1920.

R. G. GRADY,
Chairman Board of Drainage Commrs.

Bids close July 26, 1920.

\$60,000 6% Road and Bridge Bonds

Bartow, Fla.

Notice is hereby given that on the 26th day of July, A. D. 1920, not later than the hour of twelve o'clock noon upon said date, the Board County Commissioners will receive bids for the purchase of bonds of the Special Road and Bridge District Number Six, in and for Polk County, Florida, at the Clerk's office at Bartow, in said county and State; said bonds aggregating the sum of \$60,000, dated January 1, 1921, and to bear interest at six per cent. per annum, payable semi-annually on the 1st day of January and July, both principal and interest being payable in the City of Bartow, Polk County, Florida, or in the City of New York, at the option of the purchaser; bonds to be of the denomination of \$1,000 each, numbered consecutively from one to sixty, both inclusive; bonds numbered 1, 2, 3, inclusive, maturing January 1, 1925, and three of said bonds maturing each year thereafter. Certified check for \$2,000 must accompany each bid. The Commissioners reserving the right to reject any and all bids if the Commissioners shall deem it necessary for the Special Road and Bridge District. No bids for less than ninety-five cents on the dollar will be received or considered by the said Board of County Commissioners.

This 21st day of June, A. D. 1920.

J. A. JOHNSON,
Clerk Board County Commissioners.

Bids close August 1, 1920.

\$75,000 School Bonds

NORTHAMPTON COUNTY, VA.

Bayview, Va.

By order of the School Board of Capeville District No. 3 of the County of Northampton, sealed bids will be received by John W. Nottingham, Clerk of said board, at Bayview, Northampton County, Virginia, until August 1, 1920, at 12 o'clock M., for all or any part of \$75,000: said bonds to be in denominations of \$500 each and payable thirty years after date, with coupons attached for the semi-annual payment of interest; said bonds to be made redeemable at the discretion of said board at any time after the expiration of five (5) years from date of issue; said bonds to be dated and money furnished on August 15, 1920, and interest to be paid at the office of the County Treasurer of said county. The right to reject any or all bids is reserved by the School Board.

These bonds are to be issued for erecting two schoolhouse buildings and furnishing the same, and are issued pursuant to Chapter 34 of the Code of Virginia, 1919 (the requirements of which have been complied with), and shall be a lien on all the property in Capeville Magisterial District (the town of Cape Charles excepted).

JOHN W. NOTTINGHAM,

Clerk of the School Board of Capeville District No. 3 of the County of Northampton, State of Virginia.

Bids close August 3, 1920.

**Sale of \$40,000 Talbot County, Maryland
Trappe School Building Bonds**

DENOMINATION, \$500 EACH.

Sealed proposals will be received by the County Commissioners of Talbot County at their office in Easton, Md., until Tuesday, August 3, 1920, at 12 o'clock noon, for the purchase of \$40,000 par value of the Trappe School Building Bonds, dated June 1, 1920, interest 5 per cent., payable semi-annually on the first days of December and June of each year, coupons, four of said bonds maturing on the first days of June in each year, beginning 1922. Authority: Acts of the General Assembly of Maryland, 1920. Exempt from State, county and municipal taxes. Deposit: A certified check for \$500. Bonded debt: \$89,500. Assessed value: \$13,868,000; actual value, \$20,000,000. Tax rate, 155 cents on the \$100.

By order of the County Commissioners of Talbot County.

HENRY P. TURNER,
Clerk and Treasurer.

Bridges and Culverts

GEORGIA FEDERAL-AID PROJECT NO. 142; S-2-3.

Thomasville, Ga.

Sealed proposals will be received by the Board of Commissioners of Roads and Revenues of Thomas County, Georgia, at the office of said Board at the Courthouse at Thomasville, Georgia, at 3 P. M. (Eastern Time) on Thursday, the 29th day of July, 1920, for the furnishing of all labor, material, equipment and other things necessary for the construction on the Thomasville-Quitman Road, Route 38, of four reinforced concrete pile and slab bridges, 32, 64, 32 and 32 feet long, respectively, spanning Aucilla Creek and tributaries, and two reinforced concrete slab-top culverts, located on approaches to above bridges.

The work will consist of the following approximate quantities:

251.55 Cu. Yds. Class "A" Concrete.
203.80 Cu. Yds. Class "B" Concrete.
69.19 Cu. Yds. Class "C" Concrete.
30,049 Lbs. Reinforcing Steel.
295.09 Sq. Yds. Kentucky Rock Asphalt Surfacing.
816 Lin. Ft. Reinforced Concrete Piling Driven (14"x14").
366 Lin. Ft. Reinforced Concrete Piling Driven (10"x10").
480 Lin. Ft. Wood Piling Driven.
1145.1 Sq. Ft. Hoop Wire for Shenching.
8 Anchor Bolts 1"x3' 0" long.
4 3"x2' 6" Metal Drains.
4 3"x4' 0" Metal Drains.
12 3"x1' 4" Metal Drains.
66 Cu. Yds. Wet and Dry Excavation.

Said work shall begin on or about the 1st day of September, 1920, and shall be completed within 120 working days.

Plans and specifications are on file at the office of this Board at Thomasville, Georgia, as aforesaid, and at the office of the Division Engineer, State Highway Department, Second Road District, Thomasville, Georgia, and at the office of the State Highway Engineer, Atlanta, Georgia. Copies may be obtained from the Division Engineer, Second Road District, Thomasville, Georgia, upon receipt of \$5 to cover the cost of blueprinting.

Said work will be paid for as the same progresses, to wit: Eighty-five per cent. of the amount due in each calendar month will be paid between the 10th and the 15th day of the succeeding month, and the remainder shall be paid within thirty days of final completion and acceptance.

Proposals must be submitted on regular forms, which will be supplied by the Division Engineer, Second Road District, Thomasville, Georgia, and must be accompanied by a certified check or bidder's bond for five per cent. of the amount bid.

Bond will be required by the successful bidder as required by law.

Right is reserved to reject any or all bids and to waive all formalities.

This 21st day of June, 1920.

BOARD OF COMMISSIONERS
OF ROADS AND REVENUES.
By S. L. HEALD, Clerk.

Bids close July 22, 1920.

Steel Highway Bridge

Walhalla, S. C.

Sealed bids will be received by the County Highway Commission for Oconee County, S. C., in their office at Walhalla, up to 11 o'clock A. M. on July 22, 1920, for the construction of a Steel Highway Bridge over Chauga River between Westminster and Madison, S. C. This work consists in converting an old railroad bridge into a highway bridge with 16-foot clear roadway, by providing upper lateral system and sway bracing for existing deck truss 153-foot span, and also bridging with plate girder or riveted truss span of 77 feet and 4 inches. Floor system, including floor beams, to be built for total length of 232 feet. All work to be done in accordance with the South Carolina Highway Department specifications of date July 1, 1919, which can be obtained on application. Complete plans and specifications of this bridge can be obtained from Chief Engineer J. N. Stribling at Walhalla. Each bid must be accompanied by a certified check or a cashier's check for the sum of \$500, payable to M. R. McDonald, Secretary, as evidence of good faith of bidder. The bridge will be let to the lowest responsible bidder at 11 A. M. July 22, the Commission reserving the right to reject any and all bids.

M. R. McDONALD,
Secretary Co. Highway Com.
Dated June 22, 1920.

Bids close July 27, 1920.

Reinforced Concrete Bridge

Perry, Ga.

Sealed proposals will be received by the Commissioners of Roads and Revenues of Houston County, Georgia, at the office of said Commissioners of Roads and Revenues at the Courthouse at Perry, Ga., until 10 A. M. on the 27th day of July, 1920, for the furnishing of all labor, equipment and other things necessary for the construction of one (1) reinforced concrete bridge, with necessary earth approaches, located at Big Indian Creek, near Perry, in the County of Houston, State of Georgia, and otherwise known as Georgia Federal-aid Project No. 160, Perry-Henderson Road on Route No. 7 of the State-aid System.

Proposals will be received for the construction and surfacing of bridge and approaches mentioned, and the work will consist of the following approximate quantities:

1. 128.2 cubic yards wet excavation.
2. 4506.9 cubic yards borrow.
3. 306.1 cubic yards sand-clay surfacing.
4. 427.7 cubic yards Class "A" concrete.
5. 107.5 cubic yards Class "B" concrete.
6. 1152.0 linear feet hand railing.
7. 1440.0 linear feet 14-inch by 14-inch reinforced concrete piles.
8. 47091.0 pounds reinforcing steel.
9. 52 2-inch sheet metal tubes (drains).
10. 15 linear feet 3-inch pipe; Abmt. weep-holes.
11. 330.0 linear feet wood piling; Abmt. footings.
12. 576.0 square yards rock asphalt surfacing.
13. 0.15 acre clearing.

Alternate proposals will also be received with proposals submitted as above, for the furnishing and erection, complete, of an alternate type, comprising the following approximate quantities:

1. 420 cubic yards concrete, Class "B," abutments and piers.
2. 370 cubic yards concrete, Class "A," arch rings.
3. 80.0 cubic yards concrete, Class "A," spandrels.
4. 41.0 cubic yards concrete, Class "A," wings.
5. 55.0 cubic yards concrete, Class "A," rail.
6. 45,000.0 pounds reinforcing steel.

Bids will be submitted for the construction of said bridge on the basis of the cement for the concrete being furnished by the State or County, i. e. b. cars at the nearest railroad station, as well as on the basis of all such material being furnished by the Contractor.

Said work shall begin on or about the 23d day of August, 1920, and shall be completed within 120 working days.

Plans and specifications are on file at the office of said Commissioners of Roads and Revenues, Perry, Ga., as aforesaid, and at the office of E. N. Parker, Division Engineer, No. 302 Burch Bldg., Dublin, Ga., and at the office of W. R. Neel, State Highway Engineer, No. 700 Walton Bldg., Atlanta, Ga.

Plans can be had at \$5 per set, and specifications can be had at \$1 per set at the office of E. N. Parker, Division Engineer, Dublin.

Said work will be paid for as the same progresses, to wit: 85 per cent. of the amount due in each calendar month will be paid between the 10th and 15th day of the succeeding month, and the remainder will be paid within 30 days of final completion and acceptance.

Proposals may be submitted on regular form, either "A" or "B," which will be supplied by the Engineer, and Form "A" must be accompanied by a certified check or bidder's bond for 5 per cent. of amount of bid.

Bond will be required of the successful bidder as required by law.

The right is reserved to reject any or all bids and to waive all formalities.

This the 30th day of June, 1920.

C. E. BRUNSON,

Clerk Commissioners of Roads and Revenues of Houston County, Georgia.

E. N. PARKER,
Division Engineer,
Dublin, Ga.

Bids close August 5, 1920.

Street Paving

Fort Myers, Fla.

Sealed proposals, directed to Jno. W. Owens, City Clerk of the City of Fort Myers, Fla., will be received at the City Clerk's office until 5 P. M. August 5, 1920, and publicly opened that same evening at a regular meeting of the City Council, for the grading, furnishing all labor and materials required to construct the following pavements:

Oak Street, from the A. C. L. R. R. to the

west line of Hendry Street, approximately 2607 square yards.

Hendry Street, from the south line of Oak Street to the south line of First Street, approximately 1166 square yards.

Monroe Street, from the north line of Oak Street to the north line of First Street, approximately 1106 square yards.

First Street, from the east line of Monroe Street to the west line of Evans Avenue, approximately 16,907 square yards, a total of approximately 20,876 square yards.

Alternate bids will be received on cement concrete, asphaltic concrete, sheet asphalt, asphaltic block and vitrified brick. The contractor may bid on any or all of these different surfaces.

Certified check of \$1500 must accompany each bid or group of bids.

Specifications, proposal blanks, form of contract and detailed information concerning the conditions and manner of submitting bids can be obtained by applying to J. A. Davison & Son, Engineers for the City of Fort Myers, Fla. A deposit of \$5 will be required for each complete set of specifications sent out. This amount will be refunded upon the return of the specifications properly filled in by actual bidders.

Payments for work done will be made in cash monthly on estimates by the Engineer. No maintenance bond required.

Detailed plans may be seen at the office of the Engineer.

The Mayor and Council reserve the right to reject any or all bids and to award the contract as is deemed to the best interests of the City of Fort Myers.

Bidders will be notified as to results of the letting within 48 hours of the opening of the bids.

Signed

J. A. DAVISON & SON,
City Engineers.

Attest:
JNO. W. OWENS,
City Clerk.

Bids close July 28, 1920.

Paved Road

Griffin, Ga.

Sealed proposals will be received by the Board of Commissioners of Roads and Revenues of Spalding County, Georgia, at the office of said Board at the Courthouse at Griffin, Georgia, at 1 P. M. on the 28th day of July, 1920, for the construction of 4.9 miles of Paved Road, located between the Griffin corporation line and a point 4.9 miles eastward on what is locally known as the Jackson Road, known as State-Aid Project S-6-2.

The work will consist of:

- 26,945 cu. yds. Common Excavation.
- 499.3 cu. yds. Borrow Excavation.
- 10 cu. yds. Rock Excavation.
- 60 lin. ft. 18" D. S. V. C. Pipe.
- 25 lin. ft. 24" D. S. V. C. Pipe.
- 30 cu. yds. Cement Concrete, Class "B," in Headwalls.
- 51,600 lin. ft. 2"x8" Wood Curbing.
- 45,867 sq. yds. Bituminous Macadam or Rock Asphalt Paving.

Spalding County will supply crushed rock dumped on prepared subgrade. Contractor to spread and roll same.

Said work shall begin within 10 days after contractor is notified by the Board that his bond is accepted, and shall be completed within 120 working days.

Bids are invited on the regular State Highway Department standard form as well as on "Form B" Contract.

Plans and specifications are on file at the office of this Board at Griffin, Georgia, as aforesaid; at the office of the State Highway Engineer, 700 Walton Building, Atlanta, Georgia, and at the office of the Division Engineer at Courthouse, Griffin, Georgia, from whom blueprints and specifications can be had upon reprints \$6 for plans and \$1 for specifications.

Said work will be paid for as the same progresses, to wit: 85 per cent. of the amount done in each calendar month will be paid between the 10th and the 15th day of the succeeding month, and the remainder shall be paid within thirty days of final completion and acceptance.

Proposals must be submitted on regular forms which will be supplied by the undersigned, and must be accompanied by a certified check or bidder's bond for 5 per cent. of the amount of the bid.

Bond will be required of the successful bidder as required by law.

Right is reserved to reject any or all bids and to waive all formalities.

This the 24th day of June, 1920.

BOARD OF COMMISSIONERS OF
ROADS AND REVENUES.
By J. E. WALLACE,
Chairman.

E. H. DAVIS,
Division Engineer,
State Highway Department.

Bids close August 5, 1920.

Courthouse

Tunica, Miss.

The Board of Supervisors of Tunica County, Mississippi, will receive bids for the construction of a Courthouse for said county until 11 o'clock August 5, 1920, at which time all bids received will be opened and considered at the regular August, 1920, meeting of said board.

Separate bids will be received on Plumbing, Heating, Electric Wiring, Electric Fixtures, Clock and other items as directed by the architects of the board, according to the plans and specifications now on file with the Clerk of the Chancery Court of said county.

Each bid must be accompanied by a certified check in the sum of \$1000 to secure compliance with bid. Bond in 100 per cent. of contract price will be required.

Contract will be awarded the lowest and best bidder. The board reserves the right to reject any and all bids.

Plans and specifications are on file in the office of the Chancery Clerk of Tunica County, Miss., and will be issued from the office of Frank P. Gates Company, Architects and Engineers, Clarksdale, Miss. A deposit of \$10 is required on receipt of plans and specifications, to be returned when said plans and specifications are returned to the architects' office.

Witness my signature and seal of office this 8th day of July, 1920.

L. C. SHANNON,
Chancery Clerk.

Bids close August 3, 1920.

School House

Clarksdale, Mississippi.

The School Board of Clarksdale, Mississippi, will receive sealed bids at the City Hall until eight o'clock P. M. August 3, 1920, in Clarksdale, Mississippi, for the construction of a brick school building for negroes, at which time all bids received will be opened and considered by said board. The board reserves the right to reject any or all bids. Separate bids will be received on plumbing, heating and electric wiring.

Plans and specifications are on file in the office of Frank P. Gates Company, Architects and Engineers, Clarksdale, Mississippi. Same to be seen and examined at the office of the City School Superintendent, H. B. Heidelberg.

All bidders must file with their bid a certified check to the sum of one thousand dollars (\$1000) as a guarantee that bid will be complied with. A deposit of five dollars (\$5) will be required until the return of plans and specifications to Architects.

By order of the above board, July 6, 1920.

GEO. F. MAYNARD, President.
J. H. JOHNSON, Secretary.

Bids close July 17, 1920.

School Building

Fort Myers, Fla.

Notice is hereby given that the County Board of Public Instruction for Lee County, Florida, will receive sealed bids up to Saturday the 17th day of July, 1920, 11 A. M., for the construction and erection of a High School Building in Special Tax School District No. 1 of Lee County, Florida, and within the limits of the City of Fort Myers, Florida, and on a site to be designated by the Board prior to the awarding of a bid, in accordance with the plans and specifications prepared by F. J. Kennard, Architect, Tampa, Florida, and adopted by the School Board, the contractor to furnish all labor and materials for the same, make all grades and excavations. Plans and specifications may be seen and examined at the office of the County Superintendent of Public Instruction at Fort Myers, Florida, without charge, or copies may be secured from the Architect on and after the 1st day of July, 1920, at a cost of \$15. All bidders must file with their bid a certified check in the sum of 2 per cent. of the amount of bid as evidence of good faith and as a guarantee that bid will be complied with. The contractor will be required to enter into contract for such work, and will be required to furnish good and sufficient bond in the sum of 25 per cent. of the amount of contract with the usual and legal conditions. 90 per cent. of the cost of materials and complete work will be paid upon the Architect's estimates each and every month. Each bidder must state when he will commence work and when same will be completed. The right is reserved to reject any and all bids.

Done by order of the Board in regular session this June 7, 1920.

O. M. DAVISON,
Chairman.

Attest: J. W. SHERRILL,
Superintendent Public Instruction and
Secretary to Board.

Bids close August 2, 1920.

Sewage Disposal Plant

Kosciusko, Miss., July 8, 1920.
Bids for sewage-disposal plant for Kosciusko School Building will be received by the Board of Trustees Kosciusko City Schools, Kosciusko, Miss., at the office of the President up until 2 P. M. Monday, August 2, 1920, and then opened.

Plans and specifications to be had upon application to Bem Price, Architect, 1420 Jefferson County Bank Building, Birmingham, Ala.

The Board of Trustees reserves the right to accept or reject any or all bids.

E. L. RAY,
President.

Bids close July 30, 1920.

Concrete Reservoir

Galveston, Tex.
Sealed proposals will be received by the Board of Commissioners of the City of Galveston, in the office of the City Secretary until 3 o'clock P. M. Friday, July 30, 1920, for the furnishing of all labor and material necessary for the construction of a concrete reservoir for the City of Galveston, as proposed and outlined by plans and specifications for that class of work; said plans and specifications are now on file in the office of the City Secretary, or they may be obtained from the office of the Supervising Engineer, Henry Exall Elrod Company of Dallas, Texas.

A deposit of Twenty-five (\$25) dollars will be required of each bidder furnished with a copy of the plans and specifications. This money will be returned to the unsuccessful bidders.

Proposals will also be received for a steel

reservoir 100 feet in diameter and 25 feet high, having an overall factor of four.

Bidders will be required to furnish their own plans and specifications for steel reservoir, covering the erection on building site.

Each proposal must be accompanied by a certified check in the sum of 5 per cent. of the contract price, payable to the order of the City Treasurer, and the proceeds of said check shall be forfeited as ascertained and liquidated damages to the City of Galveston, in case an award is made and the bidder fails to execute the contract as provided in this proposal.

The right is reserved to reject any or all bids or to accept the bid which is for the best interests of the city.

GEO. E. ROBINSON,
Water-works and Sewerage Commissioner.
J. G. MONTGOMERY,
Supt. of Water-works and Sewerage.
JNO. D. KELLEY,
City Secretary.
Galveston, Tex., June 24, 1920.

Bids close August 2, 1920.

Heating, Plumbing and Wiring for School Buildings

Kosciusko, Miss., July 8, 1920.
Bids for heating, plumbing and wiring for the Kosciusko School Building will be received by the Board of Trustees Kosciusko City Schools, Kosciusko, Mississippi, at the office of the President up until 2 P. M. August 2, 1920, and then opened.

Plans and specifications to be had upon application to Bem Price, Architect, 1420 Jefferson County Bank Building, Birmingham, Ala.

The Board of Trustees reserves the right to accept or reject any or all bids.

E. L. RAY,
President.

Bids close July 21, 1920.

Water-Works Improvement

Culpeper, Va.
Sealed proposals will be received for the materials and labor in connection with the above work by the Mayor and Board of Councilmen of the City of Culpeper, Va., until eight (8) P. M. o'clock Wednesday, July 21, 1920, when they will be opened and publicly read.

The water-works improvements contemplated consist of the construction of a brick and concrete filter building, a concrete coagulating basin, concrete wash-water reservoir, one steam-driven pump and incidental piping and appurtenances to make the work complete.

Bids will be entertained separately upon the several sections into which the work is divided, that is a general contract, filter equipment and pumping equipment.

Plans and specifications may be examined at the office of the Mayor or at the office of the consulting engineers. Prospective bidders may procure plans and specifications by addressing direct the consulting engineers and making a deposit of \$30, which deposit will be refunded upon the return of the plans and specifications in good condition.

Each proposal must be accompanied by a certified check in the sum of five (5) per cent. of the amount bid as evidence of good faith upon the part of the bidder.

The city reserves the right to reject any and all bids or accept any which may seem to it to be the best interest of the City of Culpeper, Va.

R. M. MacKALL, Mayor.
R. F. BOOTEN, Chairman.
DIEHL & VANCE,
Consulting Engineers,
Norfolk, Va.



MINERAL AND TIMBER LANDS, WATER POWERS, MISCELLANEOUS PROPERTIES

FOR SALE.—1155 acres farming, timber and mineral lands. Originally 9 farms. One 10-room house, other buildings machinery, etc. Cowee Valley, Macon county, North Carolina. Cheap for cash. J. E. Rickman, Franklin, N. C.

FOR SALE.—Southern farms and timber lands, water fronts, factory sites, milling properties, orchards and mineral lands. Write for our catalogue. American Realty Exchange, Richmond, Va., and Washington, D. C.

PANAMA LANDS. TIMBER TRACT.

200,000 acres semi-hard and hardwood on Pacific Coast near Panama Canal, accessible by large navigable river; very best sugar land when cleared. Timber reports furnished. Snap at \$2.50 per acre.

RANCH, WITH STOCK.

50,000 acres, with 1200 cattle and 350 horses, 300 miles up Pacific coast from canal; delightful, healthful climate, cool, but never frost, 5000 feet elevation, near transportation. Wonderfully rich soil for sugar, potatoes, corn, etc. Sportsmen and health seekers' paradise. Price, \$200,000.

ANOTHER RANCH.

100,000-acre equipped going ranch, near above ranch, about 3000 high-bred cattle, on coast; 3000 acres cleared for sugar cane near port; oil just discovered near this. Cheap at \$6 per acre. Big discount to reserve minerals. Family and I have lived in Republic past three years, and will furnish any information required, with maps and full reports. Also have smaller properties. M. E. Bogle, Austin, Tex.

FOR SALE AND LEASE.—Coal lands, oil lands, timber and colonization tracts—gold, diamond, bauxite and phosphate mines in United States and South America. Weal Syndicate, Inc., 211 Curry Bldg., Tampa, Fla.

FOR SALE.—80 acres developed zinc mine, equipped with mill; also timber lands; improved commercial orchards in Northwest Arkansas fruit belt; stock and grain farms. Fredericks Realty Co., Springdale, Ark.

RATES AND CONDITIONS

Rate 30 cents per line per insertion. Minimum space accepted, four lines. In estimating the cost, allow seven words of ordinary length to a line. When the advertisement contains a number of long words, proper allowance should be made. Terms: Invariably cash with order; check, postoffice or express order or stamps accepted. No display type used. Questionable or undesirable advertisements will not be accepted. The assistance of our readers in excluding undesirable advertisements is requested. We reserve the right to refuse any advertisement. No patent medicine, oil or mining stock advertisements accepted. Rate for special contracts covering space used as desired within one year as follows: 100 lines, 25c. per line; 300 lines, 26c. per line; 500 lines or more, 25c. per line.

MINERAL AND TIMBER LANDS, WATER POWERS, MISCELLANEOUS PROPERTIES

LARGE bodies of iron-ore, pyrites, gold and copper lands for sale on easy terms; mineral lands of all kinds, etc. Send for catalogue of farms and mineral lands. Emmet D. Gregory, First National Bank Bldg., Diliwyn, Va.

I HAVE FOR SALE leases, royalties, production, coal and timber lands. All leases have been selected in territory that has been proven by competent geologists. Over 1,000,000 acres in Texas in producing counties or where tests are being made at one-half the price charged in Texas. E. D. Watkins, Oil Producer, Irvine, Ky.

RED GRANITE QUARRY

SPLENDID RED GRANITE PROPERTY, 300 feet from railroad. Will mail samples and photographs of quarry. On account of bad health will sacrifice. Ben Thorp, 116 E. Weatherford St., Fort Worth, Tex.

CLAY PROPERTIES

FOR SALE—FINE TRACT OF CLAY. Makes exceptionally fine brick. Located on N. S. R. R., near Newbern, N. C. Also have 10,000 cords standing timber on adjoining property. Thos. B. Hammer, Philadelphia, Pa.

CLAY AND CEMENT PROPERTIES

FOR SALE—Clay and cement properties, two miles from city limits; I. & G. N. Railway passes through the center of this property. Geologists have pronounced it as unequalled soils in the State. For particulars inquire P. O. Box 199, San Antonio, Tex.

FLUORSPAR

VALUABLE FLUORSPAR PROPERTY

For Sale or Lease.

E. D. Watkins, Oil Producer, Irvine, Kentucky.

COAL LAND AND MINES

8500 ACRES COAL LAND, Webster County, W. Va., on B. & O.; 9 workable drift veins. \$60 an acre. For this and other bargains address Philip Muller, Jr., Dushore, Pa.

FOR SALE—3600 acres undeveloped coal lands, situate in Kanawha County, W. Va., on C. & O. Railroad and Kanawha River; tract carries all Kanawha measures, including No. 5 Block, Stockton-Lewiston, Coalburg and Winfrede seams. Price \$100 per acre. For further particulars write George H. Williamson, Charleston, W. Va.

COAL AND TIMBER LANDS

Cumberland County, Tennessee; to close estate; titles good; 70,000 acres in tracts of 2000 to 20,000 acres. E. H. Benoist, 1002 Title Guaranty Bldg., St. Louis, Missouri.

TIMBER

LATH AND TOBACCO STAVE TIMBER. FOR SALE—10,000 to 15,000 cords standing timber on N. S. R. R. near Newbern, N. C. Will sell by the cord with cash advance. Fine opportunity for laths or tobacco stave factories. Thos. B. Hammer, Philadelphia, Pa.

TIMBER

TIMBER FOR SALE.—4900 acres timber rights, with 17 years for cutting. Estimated to contain 52 million feet; 10 per cent. cypress, 10 per cent. yellow poplar, 20 per cent. gum, 60 per cent. pine. Located on Southern Railway at Springfield, S. C. Easy terms to reliable operator. W. L. Clement, Trustee, 601 Magnolia St., Greensboro, N. C.

IF YOU are in the market for good pine timber, well located in North Carolina, communicate with James & James, Inc., Southern Building, Wilmington, N. C.

TIMBER FOR SALE.

Original short-leaf and slash pine timber, also hardwood timber. In separate tracts of fifty to one hundred and fifty million feet in Georgia and South Carolina. State amount of timber wanted and if pine or hardwoods. Postoffice Box 223, Savannah, Ga.

LUMBER

LUMBER, LATH AND SHINGLES.

Dressed stock, framing in mixed cars or housebills at 25% under your local prices. Let me quote you on your needs. Stuart R. Greiner, Inc., Perry, Florida.

FOR SALE.—300,000 feet of 1-inch 2 common and better yellow pine boards, green, air-dried or kiln dried, rough or worked to order. Stephens Lumber Company, Jacksonville, Fla.

TIMBER OPERATION

TIMBERLAND AND SAWMILL FOR SALE, LOCATED ON BEAUTIFUL RIVER AND RAILROAD IN FLORIDA, AT 60 PER CENT OF VALUATION. 25,000-foot sawmill and shingle mill in Northern Florida, 2300 acres in fee, on which is long-leaf pine, oak, gum and about 6,000,000 feet of cypress. Also estimated 5,000,000 feet long-leaf pine contracted for at \$3 per M. A large amount of pine, oak and gum adjacent that can be purchased cheap. Good lumber or box proposition. Offered by owner, who has other business that takes all his time. I. A. Dye, Monroeville, Ala.

TIMBER LAND

TIMBERLANDS.—Sixteen hundred and fifty acres, with ten million feet virgin timber. There is also a fine body of about six million feet of timber adjoining that can be bought at a very reasonable price. For particulars see Jay H. Green, Masonic Temple, Mobile, Ala. Bell Phone 1310.

54,000 ACRES virgin long-leaf pine timber in compact body in Florida, \$15 per acre, third cash. Also, 12,000 acres timber land accessible to good Florida town, \$17.50 per acre. Address P. Box 43, Decatur, Ga.

37,000 ACRES pine, cypress, hardwood; no waste; on railroad; average 400 feet to the acre; 40 million yellow pine, 35% 12x12 and better; 20 million large cypress, 6 logs to thousand, average 3.8 logs to tree; 57 million red gum, 7 logs to thousand, 3 logs to tree; 16 million red oak; 3 million white oak; 17 million other hardwoods. Total, 153 million. Twenty-year lease. Price \$900,000; \$100,000 cash, balance \$800 per month at 6%. Lamar Rankin, Tampa, Fla.

24,000 acres of good oak timber for sale at a bargain; in one tract; fertile land, well watered; splendid investment. Thomas W. Watson, St. Charles, Mo.

FOR SALE.—In prominent Southern State, about 50,000 acres accessible timber; will almost, if not fully, pay for it. Can retail it cut-over for \$40 an acre. It's a real buy. Address No. 5536, care Manufacturers Record, Baltimore, Md.

FARM AND TIMBER LAND

VALUABLE LANDS AND TIMBERS FOR SALE.—I have for sale, on very reasonable terms, about 4000 acres of farm and timber lands in Bertie County, N. C. Parties interested may address Francis D. Winston, Windsor, N. C.

WRITE for free Mississippi map and list of improved black land farms. Also wholesale cut-over and timber tracts for sale. Southern Land & Timber Co., Box 843, Meridian, Miss.

FRUIT, FARM AND TRUCK LANDS

ALABAMA

ALABAMA ALFALFA LAND FOR SALE. 900 acres fine level land in alfalfa section of Alabama at \$40 per acre. For details write W. A. Webster & Co., 827 Stahlman Bldg., Nashville, Tenn.

BEFORE LOCATING ANYWHERE, investigate the lands of the famous Black Belt of Alabama. Ideal climate, fine pikes and schools; 9 months' grazing; ideal lands for alfalfa hay; cattle, hogs and all crops grown in the South. Write or see

Fred Andrews,
Farm Lands Specialist,
209 First Natl. Bank Bldg., Montgomery, Ala.

FOR SALE.

For bargains in land in West Alabama
Address
Cox & Coleman, Millport, Ala.

DISTRICT OF COLUMBIA
GENTLEMAN'S COUNTRY
ESTATE BARGAIN.

Beautiful colonial center-hall type house. First floor—Living-room, music-room, library, dining-room, butler's pantry, kitchen and extra lavatory. Second floor—Five master bedrooms, two tiled baths. Third floor—Three bedrooms and bath. Six open fireplaces; large double porches on two sides; hot-water heat; hardwood floors; gas; electricity; 10 acres; lawn; tennis courts; rose garden; kitchen garden; garage for three cars; chauffeur's quarters; stable; chicken-house; carriage-house; 100 fruit trees; grape arbor; wonderful trees and shrubbery, hedges. Thirty minutes to Treasury by trolley; 20 minutes by automobile over macadam roads.

Liberal terms if desired.
Will consider an exchange.
O. B. ZANTZINGER,
Washington, D. C.

FLORIDA

FOR SALE—
FLORIDA ORANGE GROVE.

20 SETTLE ESTATE. 80 acres in bearing orange and grapefruit trees; 250 acres unimproved, of which 200 suitable for orange or grapefruit trees; 1400 acres water. All land fenced. Magnificent location for winter home. Right on beautiful lake. Near center of Florida. Two miles from railroad. One hour from thriving city.

This grove is profitable now, has been for years, and can be developed into a big money maker.

Address: Room 1405, 11 S. La Salle Street, Chicago, Ill.

\$3000 WILL BUY my homestead in Seminole county, Florida, 4½ miles east of Oviedo and bordering the Iowa City truck farms; 160 acres, half of which is flat woods and muck, well drained; 12 acres has been cultivated and very productive; 5-room house; shade and fruit trees; large barn; modern buildings and yards for 300 hens; ¼ mile to paved highway and ¾ mile to railroad station; perfect title. J. F. Allison, 121 12th St. S. E., Washington, D. C.

SUGAR AND RICE LANDS in Cape Sable region, Florida. Two crops of rice a year. W. W. Dewhurst, St. Augustine, Fla.

FOR SALE.—Five building lots in city West Palm Beach, Fla., \$400 each, one-third cash. Build winter home. Sadler, Box 866, West Palm Beach, Fla.

GEORGIA

1500-ACRE choice level farm near Americus, Ga.; 1100 acres cleared; 5 miles fencing; residence, tenant-houses, barns; \$60 acre, including mules, cattle, hogs, implements; high-grade land; good roads. Fletcher Pearson, Decatur, Ga.

GEORGIA FARMS.—2650-acre farm, solid body, in and adjoining Hazlehurst, Ga., 300 acres in city limits, 700 acres in cultivation, balance wood land, with enough timber to make all lumber needed for improvements. Price \$50 per acre. If you will investigate, you will buy. E. L. Thomas, Hazlehurst, Ga.

INDIANA

FOR SALE OR EXCHANGE.—320 acres corn and stock farm, close corporation limits Fort Wayne; \$125 per acre. Want smaller farm in South. G. W. Boerger, Ft. Wayne, Ind.

MARYLAND

MARYLAND FARMS.—Water-front estates, homes, farms and game preserves on the Eastern and Western Shore of the Chesapeake Bay and its tributaries; timber tracts, stock, dairy, truck, poultry and fruit farms. Catalogue representing 21 counties upon request. Chas. H. Heintzeman, Real Estate Broker, 922 South Charles St., Baltimore, Md.

MISSOURI

500-acre stock and grain farm, 34 miles west of St. Louis city limits, on National Highway; good buildings; very fertile land. Thomas W. Watson, St. Charles, Mo.

NORTH CAROLINA

FOR SALE.—43-acre farm, 600 young fruit trees, bearing small fruit all kinds; also 30-acre farm same section; small orchard, 1½ miles from Glenalpine, N. C.; best farming section. Address Box 113, Asheville, N. C.

122-S—1000 ACRES, 300 cleared, in good condition and fine for cotton, tobacco, peanuts and corn. One 6-room 2-story dwelling, 5 tenant-houses (3 and 4 rooms each), barns and stables; children's school auto. This place very cheap at the low price of \$80,000. Eagles-House Realty Co., Wilson, N. C.

OHIO

FOR SALE.—62½-acre farm; modern 6-room house, gas, tool shed; also fine spring water; 3-acre apple orchard; other fruit all kinds, two miles east Scio, on public highway. Farm in good condition. Write for particulars. A. P. Thompson, Station R., Scio, Ohio.

SOUTH CAROLINA

FOR SALE.—Farms, large or small, in the heart of the asparagus section; level land. Prices right. J. W. Quattlebaum, Williston, South Carolina.

TEXAS

24 ACRES just outside and south of city limits of Houston, Tex., \$1000 per acre. Terms: or will trade for good farm land, well located. If you know Houston, you know this is a pickup; land no closer in, but with a little better conveniences, selling for \$2000 and \$3000 per acre; the same conveniences will make this property worth just as much, and they are not far off. If sold in lots, will bring three times the price asked. Carson Kendall, 1617 W. 10th St., Fort Worth, Texas.

TEXAS RANCH.

240,000 acres in solid body; 90 per cent. suitable for agricultural purposes; well located; an abundance of good water; fine colonization proposition. Price, \$12.50 per acre. Good terms. We are instructed to deal only with parties able to buy.

UNITED STATES LOAN & INVESTMENT COMPANY.
PRAETORIAN BLDG.,
WACO, TEXAS.

WELL DRILLING

WATER WELLS.—We contract well-drilling upon any specification. Write us fully what your requirements are and how you wish to contract. Then we shall be glad to submit you a proposition. Gray Artesian Well Company, Pensacola, Fla.

GRADING CONTRACTS WANTED

GRADING CONTRACTS WANTED. 50,000 cubic yards or more, for 15-team Wheeler outfit, or will rent same with complete organization. Address Contractor, 63 Knickerbocker Bldg., Baltimore, Md.

INCORPORATING COMPANIES

INCORPORATE under the liberal laws of Maryland; \$100,000 charter stock certificates, minute book, and also details of complete organization handled by experts for \$63. The Corporation Company, Department C. Box 440, Baltimore, Md.

FINANCIAL

We make a specialty of
SOUTHERN COTTON-MILL STOCKS
and can give you the benefit of twenty-three years' experience in this field, if you care to buy or sell.

F. C. ABBOTT & COMPANY,
Trust Building, Charlotte, N. C.